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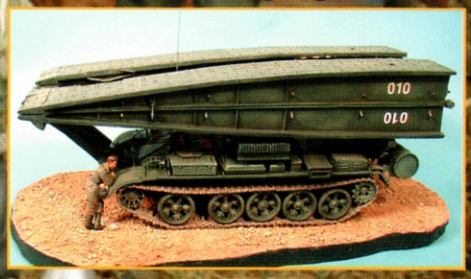
MILITARY Miniatures

IN REVIEW

Come and get it!

It's dinner time in 1/35th scale with Tamiya's Field Kitchen re-release

Scissors, please: the big 'ol MT-55 bridging vehicle



Have Guns, Will Travel: the AFV Club Gun Truck

The Big, the Bad and the Fugly: Commander Models M103 heavy tank

Ballistic Polecat: Accurate Armour's Ferret MK 2/6 Vigilant ATWG

Godzilla Beware! All the cool parts from Tamiya's Type 90 MBT kits

Satan! Harper Castings M3 Satan

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No. 27

SHORT TAKES • MODEL CITIZEN • MINI-MEN

MILITARY
Miniatures
IN REVIEW

CONTENTS

In Review

Paper Panzers 20
A sneak preview of upcoming attractions in the Panzer Tracts series.

Scissors, please 23
The big 'ol MT-55 bridging vehicle.

Have Guns, Will Travel 29
Hey look! It's the new AFV Club Gun Truck.

The Big, the Bad and the Fugly 33
It's got a face only a mother could love; the Commander M103 heavy tank.

COVER: Horch and Carriage 38
We take real close look at the Italeri Horch and the Tamiya Field Kitchen .

Ballistic Polecat 42
Accurate Armour's weird (but cool) little Ferret.

Godzilla Beware! 47
We mix and match all the cool parts from Tamiya's Type 90 MBT kits.

Be Dee-Dee 51
Tamiya's old T-62 kit gets a new life as a T-62 BDD in Afganistan.

Yeah Baby! 55
Austin Power to the max! Sovereign 2000's new Austin K5 Truck.

Japanese Tanks, Part 2: Little Jewel 59
The Type 89 tank, a gorgeous bit of multi-media fun from Gumka.

Could it be... Satan! 63
That's right, it's the new M3 Satan Flame tank from Harper Castings.

Features

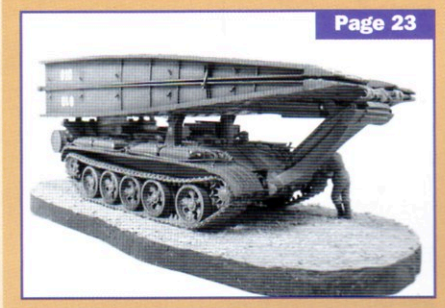
The Mail Sack 5
The readers speak.

Short Takes 7
Our look at all the latest dope from around the world.

The Idea Bank 18
Our feature on what should be available, updated quarterly.

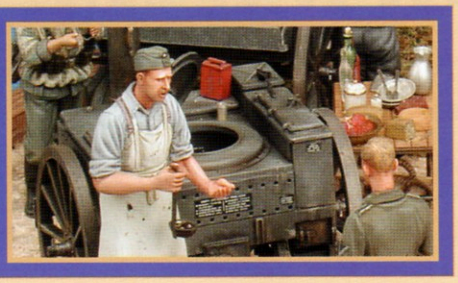
Mini-Men 67
The usual peek at what's new on the figure front.

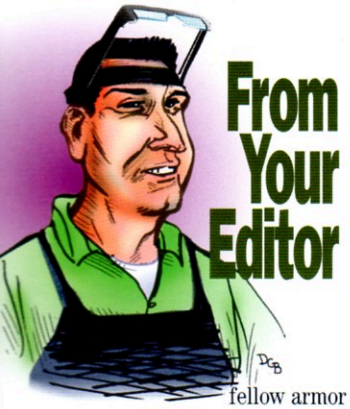
Model Citizen, Horch & Carriage, Part 2 74
Our special expanded feature described the figures and diorama on the front cover.



ON THE COVER:

Some oldies but goodies get together for a diorama in this piece inspired by the re-release of the Tamiya Field Kitchen. The Italeri Horch comes along for a ride with lots of converted figures, accessories and oh yeah, don't forget the wood! The story starts on page 38 and finishes on page 74.





From Your Editor

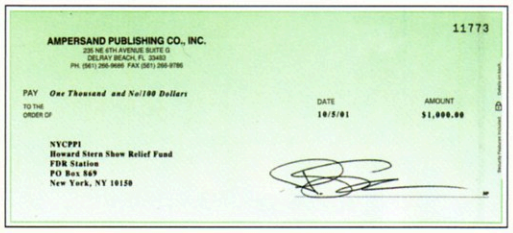
A lot has happened since the publication of issue 26. I'm not sure if this is the appropriate place to comment on the momentous events that have taken place in the autumn of 2001. I received a letter from one of our readers and I thought his comments summed it up rather well. I have reprinted the letter in its entirety to your right.

I would like to comment one thing that was (very) peripherally related to these events. Namely, the Ampersand Euro Tour 2001. As fate would have it, we sent out all the tour packages by overnight UPS on September 10th. The packages were due to arrive, and did, right around 10:00 am EST. Talk about timing. Then a rather strange thing happened. I started to get phone calls from the tour members asking me if the tour was still on. Still on? I figured that after all that had happened, not one person would want to attend. I talked with everyone by phone and much to my surprise, everyone still wanted to take the trip. So, with substantial pride I write to tell you that 19 of your fellow armor modelers figuratively raised a middle finger in the general direction of central Asia, got on an airplane, essentially and collectively saying in the process, "we aren't going to let a bunch of cowardly pricks change our lives." I gotta tell ya, I couldn't have been more proud of these guys.

Please don't think it was about the money. Our tour provider was very understanding and accommodating. But, September 11th was a gut kick to us all and my overwhelming thought was, how is anything ever going to be the same again? The answer eventually became clear; some things can still be the same if you have the courage to make them that way. I don't think it was an easy decision for anyone to take. Nerves were extra frayed and the spousal factor was very high (two guys solved that by bringing their wives). Speaking personally, there was something ever so slightly perverse about getting on an airplane on September 19th. And yet we all did and in a very basic and simple way, life became just a little bit ordinary again.

In spite of all the telephone conversations I had with the tour members I wasn't really sure if everyone would show up (many of us had separate flights). I was on pins and needles until Friday afternoon when the roster suddenly showed as full.

Let me tell ya, we had a terrific time. The level of support for all Americans in the UK and Europe was completely unexpected. I think I can speak for all of us when I say it was both sincere and overwhelmingly positive. This outpouring of friendship and support followed us wherever we went. All I can offer in response is a profound "thank you."



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In cooperation with the organizers of the Euro Militaire event and especially through the generous cooperation of Martin and Richard Windrow, we raised $1,000.00 for the so-called Fireman's Relief Fund. Bear in mind that this was all collected in loose change. A thousand bucks in loose change! How cool is that?

I should digress here and say the charity we chose is the NYCPPI. This is the charity that is administered by Mayor Rudi Guiliani and will continue to be administered by him after he leaves office, until the fund is depleted. One of the organizers of this fund was Infinity Broadcasting, producers of the Howard Stern show (love him or hate him, he's a NYC fixture). When the collection of the fund ended, the money was turned over to NYCPPI intact, with no money deducted for collection or administrative costs. Even amid the cloud of controversy surrounding many other charities, the funds from the NYCPPI are already being dispersed to the families of the Firefighters and Police officers who perished in the WTC disaster.

I would like to reiterate my sincere thanks to all those in the UK who responded so warmly to our presence and those who opened up their wallets as well!

And now on with our show

A couple of program notes. We were unable to bring you the Bergepanther article in this issue due to the fact that the article appeared in another magazine. It's our policy that everything that is printed within these pages is exclusive to MMiR, at least in English. The author of the article was not aware of this and we don't fault him for it.

We've done an expanded Model Citizen in this issue that covers the diorama featured on the cover. Part one starts on page 38 and the story ends in the Model Citizen slot on page 74. Dig in!

—Pat Stansell

COMING IN ISSUE 28 OF MMIR:

Awesome Autocar
It's resin art from DES Kits.

Panzer Haubitze 2000
The massive Revell kit.

Long Drink of Water
It's a stretch, alright. The Skybow Dodge 1 1/2-ton.

The Return of Geschutzwagen
P&J Design's new 7.5cm Geschuztwagen.

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Created in the U.S.A.

Ampersand Publishing COMPANY, INC.

The Mail Sack

We couldn't have said it better...

The other day I received my current issue of MMiR and as I perused this issue with diminished enthusiasm, I contemplated the great many events, conversations, thoughts and emotions that have transpired since the horrendous catastrophe that occurred not twenty miles from here in lower Manhattan. In the days following September 11th, I have found myself mired in an ocean of pain and grief around me. Although good fortune was bestowed upon my family and friends, I can hardly ride a bike or read a local paper without confronting the terrible cost of such misguided ideals and fanatical ignorance. As I perform the many trifles that construct my daily life, including modeling, I feel anguish at hearing of the loss of several neighbors, reading of an old high school teammate listed among the missing and of driving past another flag at half-mast.

But through the despair, I have seen and indeed felt, an awesome and profound sense of spiritual resurgence like I have never experienced before. Despite my own military service and personal sense of duty, I had never known what true courage really was until September 11th. Men and women of the New York City Fire, Police and Emergency Medical Services Departments who rushed into harms way to save others; businessmen and clerical workers who delayed their departure to help others evacuate; as well as passengers who refused to permit their hijacked plane to imperil other unsuspecting citizens. These people have inspired the whole world through their courage, decency and supreme sacrifice. And, from what I have seen and heard through the media and from conversations with friends and relatives around the globe, the world has responded with sympathy, compassion, and a willingness to reciprocate in the spirit of these lost humanitarians.

I have seen this all and since September 11th I can express, without any reservation, my profound sense of pride in being a New Yorker and an American. I also have a renewed sense of faith in the overwhelming number of decent human beings around the world, many of whom come to visit and live here in New York. I know that I will never feel as if the world is a safer place than before this day but I do feel it is a slightly better, more compassionate one. And I have every confidence that justice will be served. I have expressed these sentiments to numerous friends, family, and acquaintances who have been overwhelmed with fear and depression throughout the days since. I wanted to share this sentiment with your staff and, if you deem appropriate, with your readers. Thank you and God bless this great country!

—Joseph J. Cassarini
(White Plains, New York)

Mr. Barkmann's Neighborhood

Can anyone tell me definitively what the number of Ernst Barkmann's Panther was in Normandy? There seem to be discrepancies in the literature in my library. *Armor Battles of the Waffen-SS 1943-45* (Fey), *Panzers in Normandy Then and Now* (Lefevre, 1983 edition), and *The Panzers and the Battle of Normandy* (Bernage) all say it was #424. Then I found in Ryton Publication's *Panther* (Feist & Culver) color artwork on page 219 of his Panther in Normandy indentifying it as #421. This is corroborated in Yerger's book *Knights of Steel* Vol. 1 on page 136. Who's right? Admittedly, I don't have the new edition of Lefevre's *Panzers in Normandy* book. Nor do I have Weidinger's Division Das Reich six-volume history set (which I assume has the definitive account of Barkmann's exploits in Normandy that I'm looking for). Can anyone of your staff or readers shed some light on this for me? I'd appreciate any references they can point me to. I'm waiting, like the rest of you, for Fedorowicz to complete Weidinger's Das Reich translations so I can grab a copy. I hope he mentions Barkmann.

—Mike Barnett

✉

A good case of gas

Dang! Loved those jerrycan photos in the last issue! You don't happen to have another one of an open German map case, do you? Pretty please?

—Daniel Jarvis

You're in luck. Everybody's making map cases, but they're always closed. So to any manufacturers who are reading this, please wake up.

✉

Another guy with great taste

You are the editor of a great magazine. I look forward to each issue. I am writing in response to your editorial about the passing of Bart Vanderveen. I have a copy of each issue of *Wheels & Tracks*. I think Bart has left us with a great reference resource that will stand for a long time as a memorial to him, and to his work.

I never met Bart, but I have met Winston Ramsey, and I think it is great that Winston is continuing to keep all the issues of W&T in print. I hope many more people discover the magazine.

—Ray Charlton

Amen to that brother Ray. Wheels & Tracks can be found through VLS and RZM mail order.

✉

Kudos for Kübels

Just got my copy of the Kübelwagen special—it was well worth the wait. As soon as I saw it being trailed in MMiR I held off going further with the VW kits I was doing. I'm back on the case now!

An idea for a similar special could be one on the HUMMER and one on the jeep family.

—Mark Woodall

We're giving thought to a number of special issue subjects and we'll add that one to the pile!

✉

Our secret shame

Hi tankies, your "movers et al" guide is an outstanding little publication. However, (you knew this was coming, right?) the Dachs Pioneer Panzer shows some incorrect markings. The Dachs is only found with the Panzer Pioneer Company (CBT ENG Co) or Pioneer Battalion (CBT ENG BN) of the existing Pioneer Brigade (ENG BG) of a division. According to the markings of the Dachs in your book, the vehicle is part of Panzer Battalion 294. Just impossible! Dachs were never part of that unit.

Next issue. In MMiR 23, the review of the Luchs SpPz did not mention the 7% inward sloping of the lower hull. To my assessment this is a characteristic feature of the Luchs not replicated with the Revell kit. I served with GE Armored Task Force in Sarajevo in 1998 and it was equipped with this vehicle. If you look at pictures of the Luchs, you will recognize it quite easily.

I enjoy your magazine anytime and I can't wait to get the new one. Keep up the excellent work.

—Hauke H. Krapf, LTC, AR GE

Wait—you mean you can't just put whatever markings you want on a model? You got us there, buddy. We'll be more careful with the Bundeswehr markings in the future.

✉

Badger badgering

My copy of issue 26 arrived today—very nice! One comment on Nick Vanston's Ram Badger article. Nick may not have realized that the Resicast instructions have the front track guards set too high. In my estimation, that's the reason for his problems with getting them to fit. The bottoms of the built-in lower stowage boxes should be in line with the bottoms of the sponsons. The overhanging lip along the outer edge is actually lower than the sponsons, but you have to find photos of Rams with that lip intact to see what I mean. It seems to have been cut off quite often, probably because it interfered with the use of extended or duckbill track connectors. The bogies also need to be moved up a bit, so that the top run of the tracks is level from the sprockets and dips down to the idler. It took me quite a while to work all this out when I built my Ram Kangaroo, so these are not meant as criticisms of Nick's model, but as hints for other modelers who decide to tackle the kit.

—John Prigent

Thanks for that tip!

✉

Got a problem with any of this?

Send those comments to: Mail Sack, Military Miniatures in Review or find us at mmir3570l@aol.com

Letters are sometimes edited for brevity, grammar, spelling, national security concerns and other important stuff.

We sincerely regret that we rarely, if ever, are able to personally enter into correspondence with our readers.

Short Takes

The Year in Preview

Aber

These sets have all been listed previously, but now they're on the market and we can show 'em to you in living black and white. The latest sets are 35A88, **Tracks for FT17 Tanks** (take the ultimate etch challenge!) (RPM), $35.99; 35087, **Char Canon FT17 Basic Set** (RPM), $22.99; 35111, **Sd.Kfz. 9 FAMO Artillery Version** to complement Aber 35093 (Tamiya), $17.49; 35112, **Hetzer Early/Mid Detail Set** (Dragon), $17.49; 35113, **Hetzer Late Detail Set** (Dragon), $17.49; and 35114, **Hetzer Fenders** (Dragon and Italeri), $9.99. Still waiting in the wings are 35A84, **Sd.Kfz. 250 Alte Upper Armor** (Dragon); 35067, **Pz.Kpfw. IA/B Interior**; 35076, **Steyr 1500** (Tamiya); 35077, **Sd.Kfz. 234/3** (Italeri); 35086, **2.8cm Panzerbuchse AT Gun Detail Set** (Dragon); 35089, **Flak 38 Detail Set** (Italeri); and 35090, **Steyr 1500 Kommand Detail Set** (Tamiya).

Get ready for Aber to do the deal to the Tamiya Marder kit. Several sets are coming soon.

The mother of all detailing sets is inbound for the new **Tamiya large-scale Tiger**. This thing is nothing short of amazing with no less than 18 sheets of the photo-etched material! This is supplemented with cast brass parts (really well-done), beautifully flexible braided wire for the tow cables, a pre-cut and sized wood block for the jack block, actual threaded bolts for the side skirts and various sizes of copper wire, brass rod and brass tubing. Whew!

The set comes packaged in a small box and the instructions consist of a 52-page ring-bound booklet. Man-o-man, this thing is really something. We have been through the set thoroughly and it leaves no stone unturned in terms of recreating parts in the most realistic manner possible. Tamiya is planning to release the big Tiger as a static model in Japan, so you'll have the perfect platform for all these goodies.

Aber's North American import agent, Air Connection, lists the retail on all this fun at $199.00. Considering that every two-sheet set of Aber is around $20.00, this works out quite well.

Go ahead and soak up those photos.

Accurate Armour

AA was showing its very latest at Euro and this included the fabulous looking **British WW2 Challenger Tank Destroyer** and the modern **British Abbott SPG**. Both are full resin, white metal and photos kits.

Both stock numbers and exact prices are TBA. For up-to-date information check out their web site at www.accurate-armour.com

AFV Club

AFV Club certainly doesn't inundate the market with new releases, but they're always worth the wait. Look for several new kits to hit the shelves in the coming months. Release dates are in parentheses. 35031, **M40 155mm SPG** (2002); 35039, **Achilles IIC Tank Destroyer** (December); 35040, **SdKfz 11 3-ton Half Track** (December); 35041, **M41 Walker Bulldog** (2002); 35043, **Wheels for SdKfz. 251** (December); 35045, **Wheels and Suspension for M41** (November); and 35048, **FH18 10.5cm Gun** (December). Bear in mind that the release dates are most likely for their domestic market. U.S. dates will probably be somewhat later.

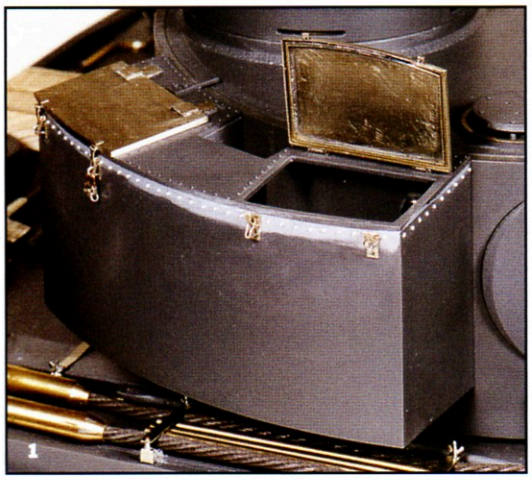
They will also re-release some of their earlier kits and each will now include a single resin crew figure. That list looks like this. 35002SP, **M730A1 Chaparral**; 35003SP, **M548A1**; 35004SP, **M35A2**; 35007SP, **M49A2C Fuel Tanker**; 35008SP, **M88A1 Recovery Vehicle Desert Storm**; 35013SP, **CVR(T) FV107 Scimitar** and 35S02SP, **CVR(T) FV101 Scorpion**.

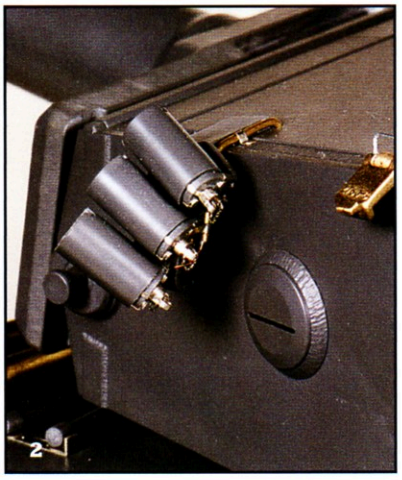
The SdKfz. 11 and 10.5cm are certainly shockers and the very first WW2 German releases for AFV Club. Prices all TBA. See the web site of Marco Polo Import, their U.S. importer, at www.marcopoloimport.com

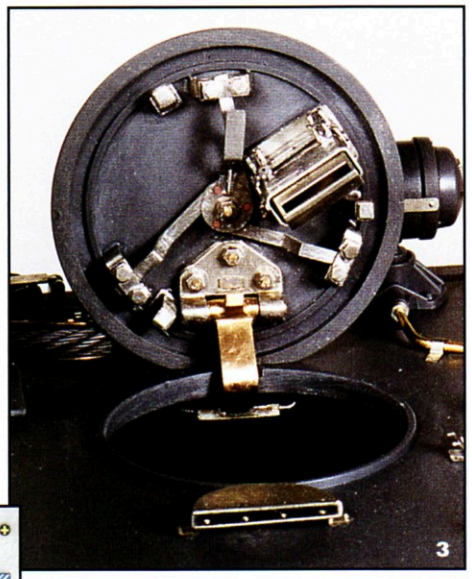
Archer Fine Transfers

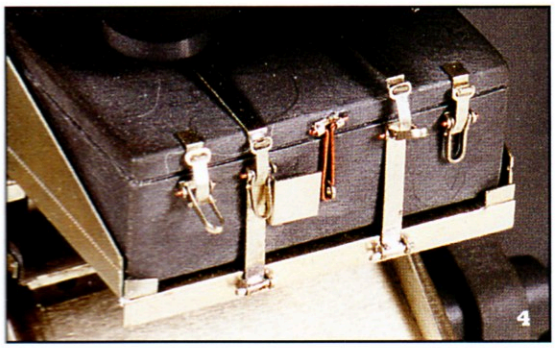
Just say the word Archer and everyone knows. There's nothing like them anywhere, and the latest round of releases is directed at the 1/35 figure market. You might want to find a seat, because this will take a while and we'll probably be crying throughout. These sets are all properly colored where appropriate and include handy little sheets to tell you what you've got. Here we go. New British items include FG35020, **British Rank Insignia Patches** (all enlisted ranks, plus Warrant Officers), $7.95; FG35021, **British 3rd Division Patches**, $10.95; FG35022, **British Guards Armoured Division Patches**, $10.95; and FG35041, **British 7th, 11th, and 79th Armoured Patches**, $13.95.

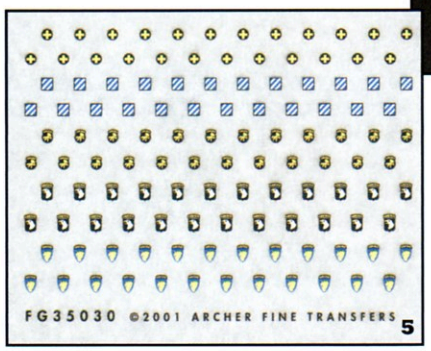
The new US sheets are as follows, and are grouped



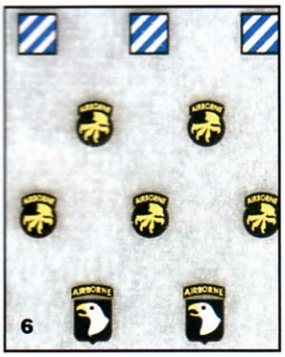








1-4. Various views of the madness in store for anyone brave enough to buy the new Aber 1/16th scale Tiger I detailing set. 5. U.S. Army Uniform Patches, FG35030, from Archer. 6. A close-up of the same sheet. Awesome! 7. One of several British Uniform Patches from Archer. 8. The little sweetie of an Abbott SPG from Accurate Armour. 9. AA's big 'ol Challenger tank destroyer. 10. The new FAMO set from Aber. 11, 12. Two new etched sets for the Hetzer. 13, 14. DES Kit's absolutely spectacular Autocar Tractor/Trailer combination. 15, 16. Two leftovers from last issue; Eduard's new sheets for the Tamiya Flak 36/37 and the Universal Carrier. 17. Eduard's new Elefant sheet. 18. The new FAMO sheet from Eduard.



by color (very clever). In the interest of space, the heading **"US Division Uniform Patches"** is omitted from the individual names. Divisional sheets include 24 of each individual unit. FG35017, **US WWII Rank Patches**, $7.95 (over 200 enlisted Army chevrons, all ranks); FG35018, **US Rangers, 1st and 29th Infantry Division** (also includes Ranger helmet markings, plus gas bag markings), $15.95; FG35019, **US Armor Division Patches** (over 100 patches covering all units), $13.95; **1st, 4th, 24th, and 63rd**, $13.95; FG35024, **9th, 38th, and 82nd**, $13.95; FG35025, **10th, 11th, 30th, 31st, and 37th**, $13.95; FG35026, **6th, 12th, 25th, 28th, and 45th**, $6.95; FG35028, **2nd, 5th, 7th, 32nd, 34th, and 43rd**, $13.95; FG35029, **8th, 23rd, 35th, 40th, and 44th**, $9.95; FG35030, **3rd and 17th Infantry and 13th, 17th, and 101st Airborne**, $13.95; FG35031, **26th, 29th, and 36th**, $5.95; FG35032, **41st and 42nd plus Rangers**, $6.95; FG35033, **1st Cav, 63rd, 66th, 83rd, and 86th**, $13.95; FG35034, **2nd Cav, 65th, 77th, 100th, 102nd and 103rd**, $13.95; FG35035, **69th, 71st, 95th, 98th, and 106th**, $13.95; FG35036, **70th, 87th, 90th, 91st, and 104th**, $13.95; FG35037, **75th, 76th, 78th, 84th, and 85th**, $13.95; FG35038, **80th, 81st, 89th, 92nd, and 94th**, $13.95; FG35039, **79th, 88th, and 97th**, $3.95; and FG35040, **93rd, 96th, and 99th**, $6.95. Check 'em out in person at www.archertransfers.com

Aves

Aves is the Wisconsin outfit producing **Apoxie-Sculpt**, heralded within these pages several times in recent issues. It is, quite frankly, the best and most affordable two-part putty you could ask for. (Repeating, four pounds for $21.00.) If you go to their website at www.avesstudio.com, you'll find plenty of other goodies to revolutionize your modeling world. They also produce Aves Paper Maché, Master Maché, Apoxie Paste, Apoxie Clay, and Fixit Paste, all of which we're currently testing here on the 24th floor of the Ampersand Building.

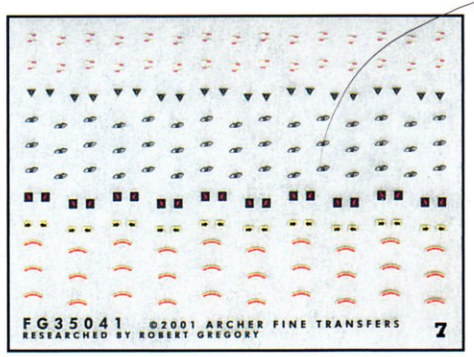
They even make Apoxie Safety Solvent for cleaning tools and brushes; one ounce for $4.00, four ounces for $7.00. Look for more good words here about these amazing folks, and give them your support.

Barrel Depot

A new line of turned aluminum barrels has popped up from our good friend at Falcon Supplies. They are marketed under the name of Barrel Depot. Here is the list so far.

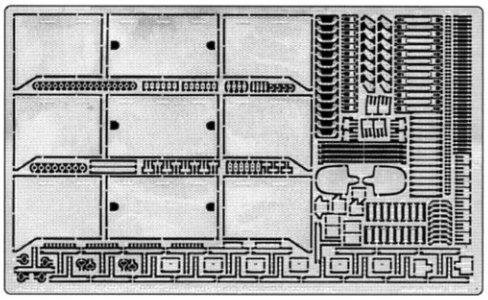
BD35001, **40mm Bofors M33 L60**; BD35002, **M68 105mm rifled gun**; BD35003, **88mm gun flak 36/37**; BD35004, **M68E1 105mm rifled gun**; BD35005, **122mm gull 2S1 SPG**; BD35006, **U-ST (2A20) 115mm gun (T-62A)**; BD35007, **M256 120mm smoothbore gun (M1A1/M1A2)**; BD35008, **155mm M1917 gun (M12)**; BD35009, **M68 105mm rifled gun**; BD35010, **Kwk36L/56 88mm gun (Tiger 1)**; BD35011, **2A46M 125mm smoothbore gun (T-80)**; BD35012, **L55 120mm smoothbore gun (Leopard 2A5)**; BD35013, **M284 155mm Howitzer (M109A6)**; BD35014, **M126 155mm Howitzer (M109G)**; BD35015, **M185 155mm Howitzer (M109A2)**; BD35016, **73mm smoothbore gun (BMP-1)** and BD35017, **D-10T2S 100mm gun (T-54B)**.

All of the barrels are attractively packaged and many of them are impressive feats of model milling. No word yet on U.S. retail. Current information on the line can be gleaned at www.hk-hobby.com



Custom Dioramics

CD's new 1/35 armor and soft skin line starts off with 2001, **Sherman Detail Set** (etch), $12.95; 2002, **Sherman Periscopes** (resin and etch), $10.95; 2003,



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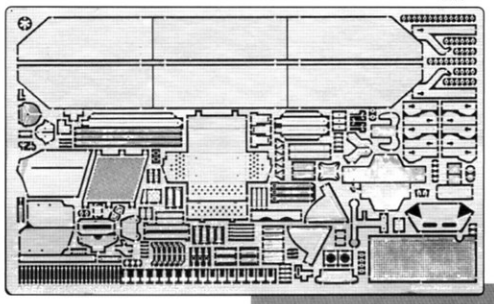

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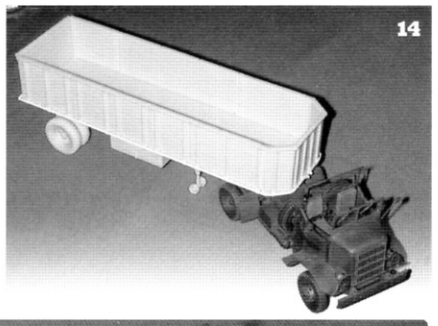

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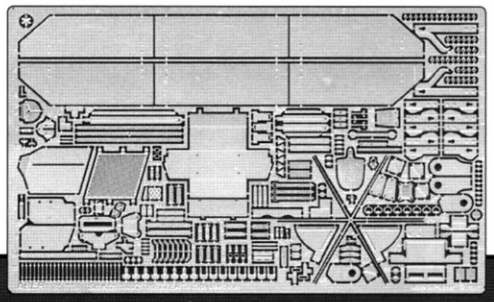

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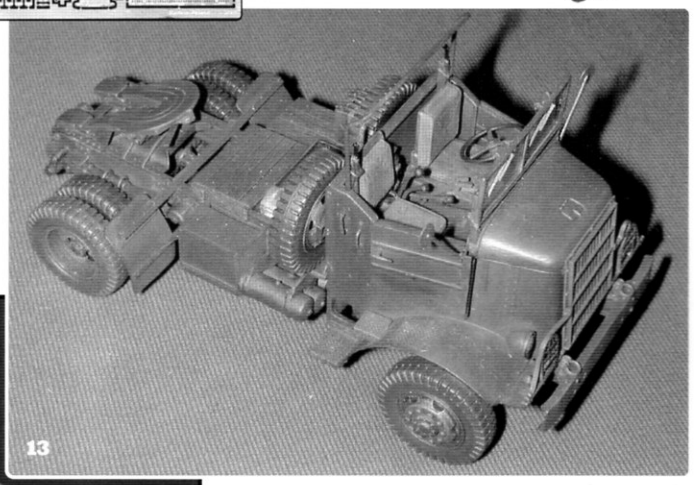

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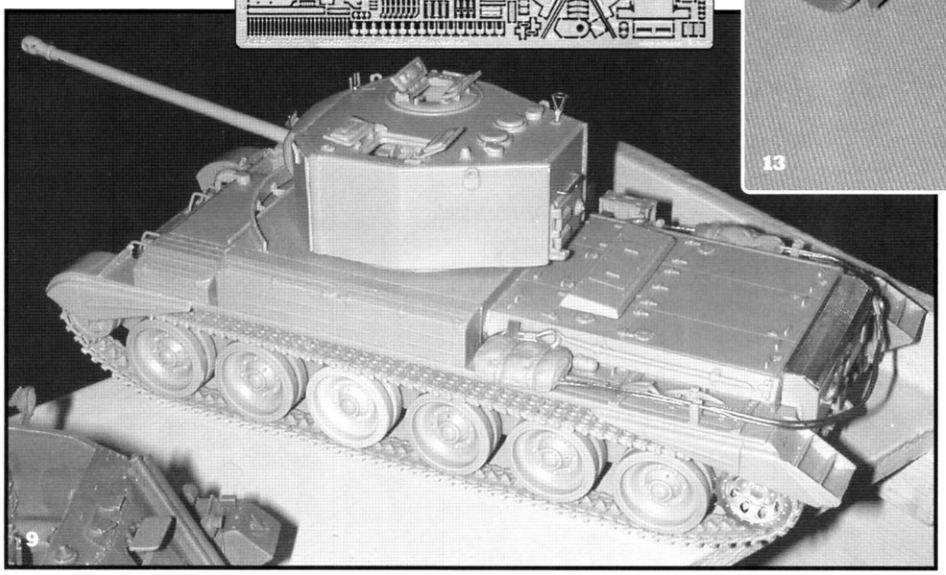

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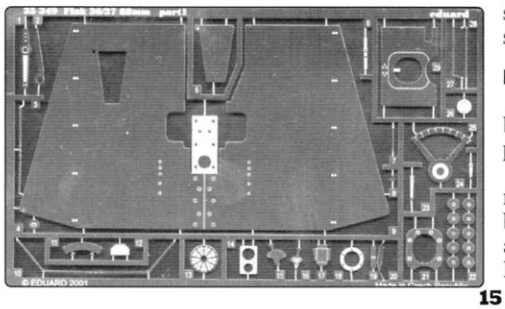
.50 cal MG (two, resin and etch), $14.95; 2004, **.30 cal MG** (two, resin and etch), $12.95; and 2005, **Sherman Sandbag Set**, $19.95. Their latest resin products include 6032, 8.5"x11" **Hardwood Floor Section**, $12.95; 6035, **Cobblestone Street Section, Extra Large**, $14.95; 6036, **German Field Kitchen Provisions #1**, $12.95; 6037, **German Field Kitchen Provisions #2**, $12.95; 6038, **Ruined Floors & Ceilings** (two triangular sections), $14.95; 6039, **Female Soviet Statue**, $15.95; and 6040, **Male Equestrian Statue** (that's a dude on a horse, in case you're wondering), $27.95.

The poly foam series continues to expand, with 7007, 19"x19" **Urban Intersection**, $79.95; 7008, **Stalingrad Factory Ruin #1**, $29.95; 7009, **Stalingrad Factory Ruin #2**, $29.95; and 7010, **European Ruin with Balcony** (with resin parts), $44.95. Custom Dio has also released their second Super Dioramas set, a whole slew of goodies to create a 19"x19" **Urban Intersection (Europe)**. Included is 7007, plus buildings, street accessories, and rubble, all for $149.95.

Czechmaster CMK

Just released from CMK is RA015, a gorgeous 1/35 **Kriegslokomotive BR52 with Tender**. These ran the rails in Germany from 1942-45 and a surprising number of them continued to be used for many years following WWII. This resin and etch kit runs about $400 and is a limited release, so get yours while you can. The Class 52 series of locomotives included many variants, and you'll find this one distinctly different from the classic Tank Workshop locomotive.



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DES Kits

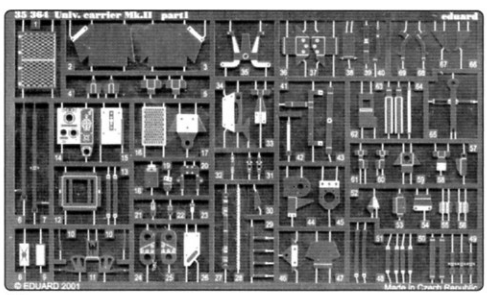
These guys really represent the upper edge of the resin making art. New at Euro this year was the 35083, **UT7144 Autocar Tractor** and 35084, **10-ton Semi Trailer**. These are designed to go together, obviously, but are priced and sold as separate kits. Both kits are breath-taking examples of what is possible in the resin medium and they help fill the wide void of U.S. WW2 soft skins. Look for a full review of both kits coming soon to these very pages.

We regret that a retail of any form was not available at press time, but direct inquires can be made at DES Kit, 27 rue Hauts de Bonne Eau, 94500 Champigny sur Marne, France. The Red Lancers is also known to stock the kit. Both are worth looking for.

Dreamcatcher

The guys at Dreamcatcher of Belgium have been busy. In the past few years they've bought up many popular figure lines, including Fort Royal Review.

They're also at work on a number of their own releases. Now check this out. Somebody finally had the bright idea to reproduce area-specific maps. Hoo-ah. It's an extensive list, and includes DCP 003, **Kosovo/The Balkens**; DCP 006, **Vietnam/The Cities and Hot**



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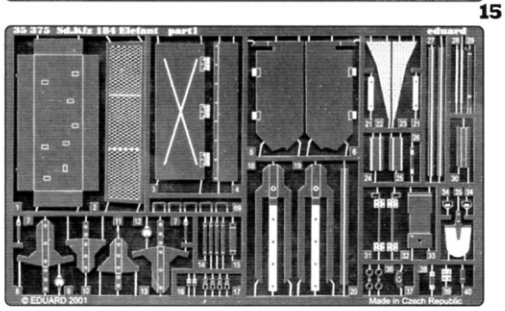

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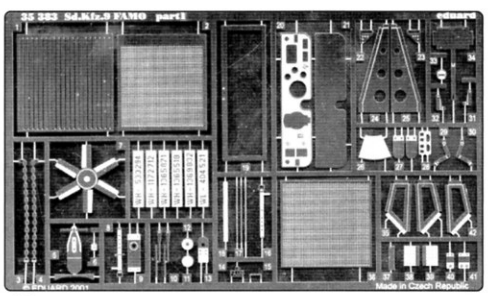

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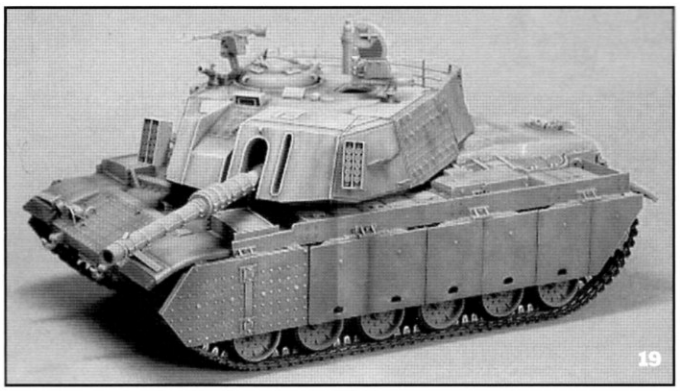
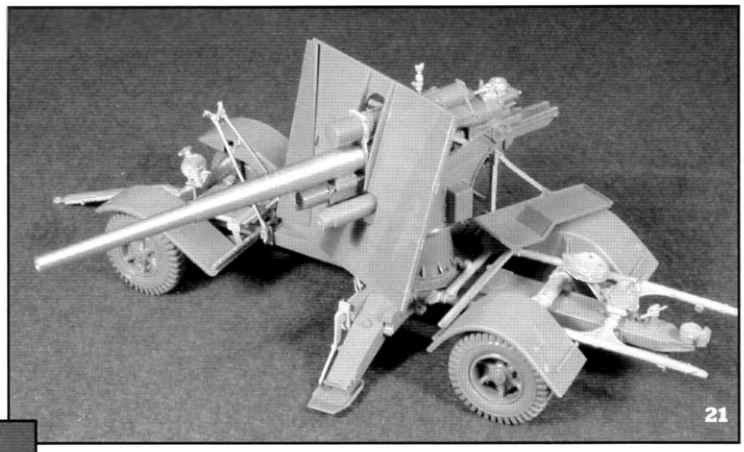
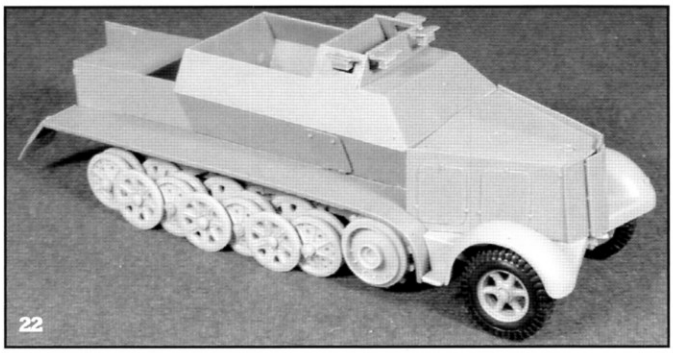
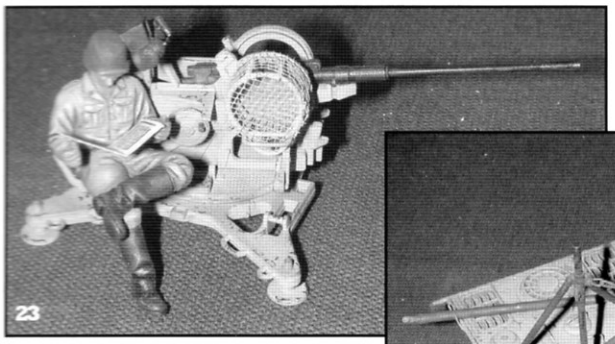
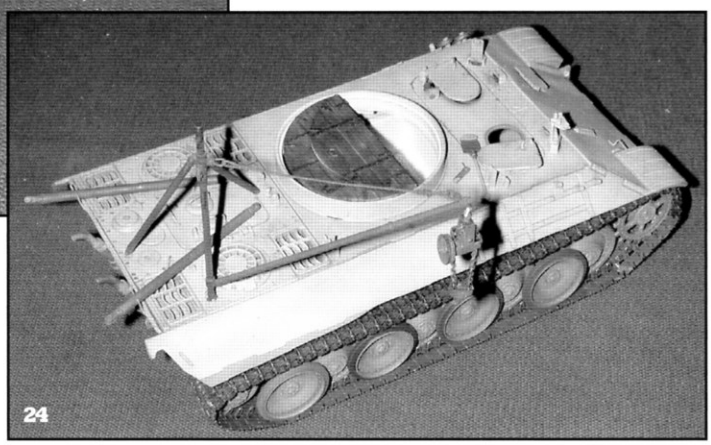










19. Legend's Magach 7 MBT conversion. 20. The K1A1 (ROK) MBT full resin kit from Legends. 21. It's all new Flak 18 from New Connection. 22. This 8-ton half-track conversion goes along with the Flak 18. 23. Precision's handy German 2cm Flak sitter. 24. The early BergePanther conversion from Precision. 25. The massive Brockway 6-ton truck from PSP. 26. Part of the detailing fun found in Royal's 231 detailing set. 27. A small section of the elaborate Royal Marder detail set. 28. Royal's 2cm detail set.

Spots; DCP 011, **World War I France** and DCP 012 **World War II France-Belgium, Luxembourg (German HQ - OKW)**.

For more information on all of Dreamcatcher's lines (including those listed in the Mini-men section) you can contact them at 4 rue de la Saboterie, B-6810 Izel, Belgium. Phone: 32-61-32-84-92, fax: 32-61-32-84-92. Web site: www.michwebch/DC/DC.htm

Eduard

As Eduard continues their unmatched production of etched detail sets, they're continuing to go back and retool old classics. So much so that the first 100 items are now officially discontinued. We should also mention that Eduard is one of the best in the business for accurate product announcements and production schedules and their prices are always consistent based on the numbers of etch sheets, acetate gauges, and Express Masks. The latest batch of detail sets contains updates for kits old and new. (EM means it includes an Express Mask for airbrushing.) 35366, **Sturmtiger Interior** (Tamiya), $19.99; 35371, **M26** (Tamiya), $19.99; 35374, **BA-6** (EM, Eastern Express), $22.99; 35375, **Sd.Kfz. 184 Elefant** (EM, Dragon), $19.99; 35376, **King Tiger Porsche Turret** (EM, Tamiya), $19.99; 35378, **Schwimmwagen** (EM, Tamiya), $14.99; 35379, **Sd.Kfz. 184 Elefant Zimmerit** (Dragon), $14.99; 35381, **Sturmtiger** (EM, Tamiya), $22.99; 35382, **M26 Interior** (Tamiya), $14.99; 35383, **Sd.Kfz. 9 FAMO** (Tamiya), $19.99; 35384, **MT-LB** (Skif), $19.99; 35385, **Hetzer** (EM, Dragon), $19.99; 35386, **Sd.Kfz. 251/9D** (EM, Tamiya), $22.99; 35388, **StuG III F** (EM, Dragon), $19.99; 35389, **T-55** (Trumpeter), $22.99; 35390, **M113 ACAV Interior** (Tamiya), $19.99; 35391, **Ford GPA** (EM, Tamiya), $19.99; 35392, **Pak 35/36** (Tamiya), $14.99; 35393, **Panther G Early Horizontal Zimmerit** (Tamiya), $14.99; 35394, **Panther G Early Vertical Zimmerit** (Tamiya), $14.99; 35396, **M26 Trailer** (Tamiya), $19.99; 35398, **Marder III** (Tamiya), $22.99; 35399, **King Tiger Henschel Turret** (EM, Tamiya), $19.99; 35400, **King Tiger Fenders** (Tamiya), $19.99; 35401, **M113 ACAV** (Tamiya), $19.99; 35402, **M4A3E Jumbo** (Tamiya), $19.99; 35403, **Dodge WC51** (EM, Skybow), $19.99; 35404, **King Tiger Zimmerit** (Tamiya), $14.99; 35405, **KV-IB** (Tamiya), $19.99; 35407, **BT-7** (Zvezda), $22.99; and 35411, **Sd.Kfz. 234/4** (EM, Italeri), $22.99.

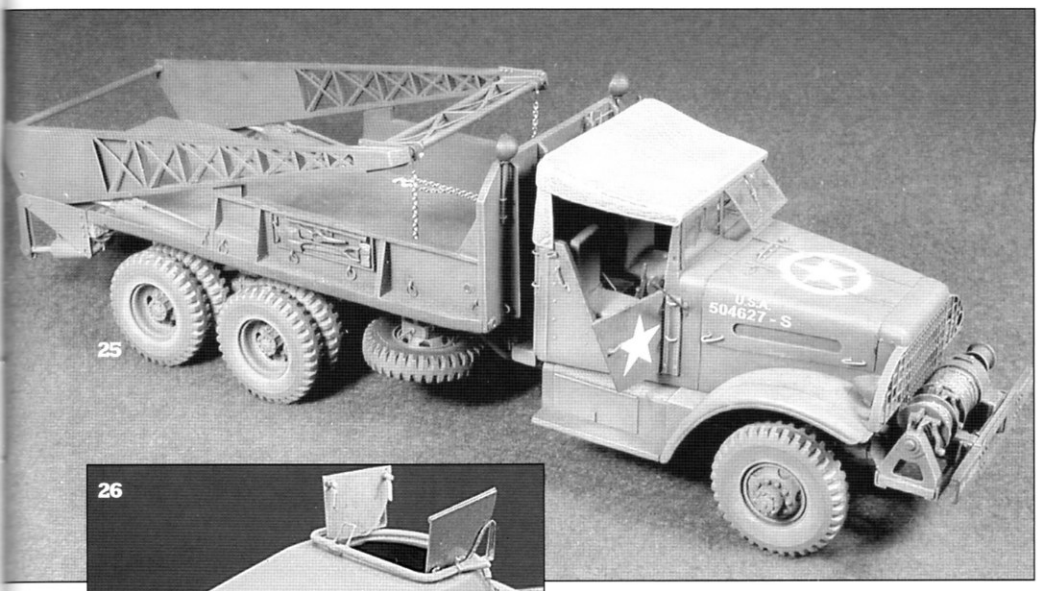
The latest Eduard Express Masks in 1/35 scale are as follows. XT039, **Marder III Wheel Mask** (Tamiya), $3.99; XT040, **T-34/76 1943 Markings** (Tamiya), $4.99; XT041, **Marder III Markings** (Tamiya), $4.99; XT042, **British Serial Numbers (Armoured Divisions)**, $3.99; XT043, **British Serial Numbers (Infantry)**, $3.99; XT044, **British Division Markings (Infantry, with etch stencils)**, $8.99; XT045, **British Division Markings** (Armor, with etch stencils), $8.99; and XT046, **Independent Armor Brigades** (with etch stencils), $8.99. Whew!

You can also be on the lookout for a new line of turned aluminum barrels from Eduard. And it ain't the same ol' spaghetti, guys—these barrels include the muzzle brakes, all in one piece, all perfectly turned and bored. Mind blowing stuff.

Fingerprint Designs

These guys from England continue to produce some of the keenest decal sheets we've ever seen, and the three latest will have you shouting for joy. 35/010, **US Internal Stenciling**, provides all these tricky little markings that festooned US interiors in the 1940s-50s. (A few external markings are provided as well.) We stopped counting at 200, and the sheet includes first aid, dozens of different stowage labels, a wide variety of data plates (!!!), 48 instrument gauges, and a whole cluster of turret ticks for the M8 Greyhound. Prepare to weep openly and unashamedly; this set gets the Ampersand Hoo-Ah Award.

Next is 35/011, **German Miscellaneous Markings**, another absolute stunner, including assorted vehicle shipping stencils, convoy markings, cleaning rod tube markings, air ID swastikas, and feldpost stamps for license plates. (We can hardly stand it.) Third is **German Vehicle Crosses 1939-45**, featuring



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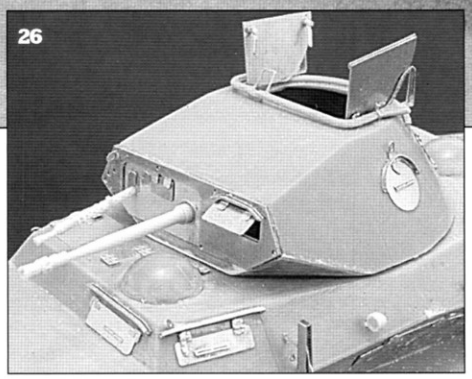
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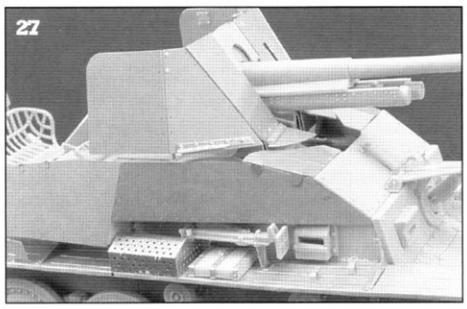
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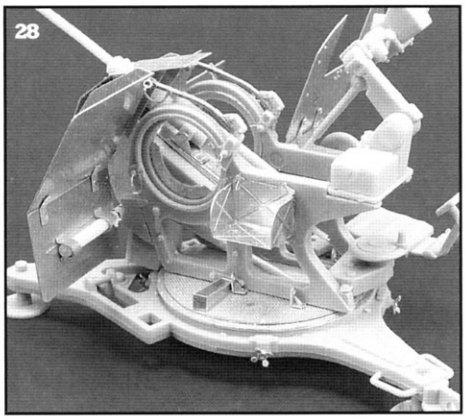
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48 Balkankreuz in five different styles and nine different sizes. (We must be dreaming.) Get 'em direct at www.fingerprintdesigns.supanet.com

Hobbyfan

Hobbyfan is the resin division of AFV Club and they have quite a list this time around. Here's what's around the corner and near by. HF026, **1/16 Aluminum Barrel for Tiger I**; HF027, **M35 Gun Truck II Update/Armour**; HF028, **M35A1 Gun Truck (3) fire support vehicle**; HF029, **US Military Mortar position Vietnam**; HF030, **NATO/Ground Self-Defense Force FH70 155mm Howitzer**; HF032, **Equipment & Hood for SdKfz 11**; HF033, **V150 Commando 4x4 Armored Car with Interior**; HF034, **M667 Guided Missile Equipment Carrier**; HF035, **M59 2.5 Ton Dump Truck**; HF530, **M35A1 Gun Truck Crew**; HF531, **US M29 81mm Mortar & Artilleryman (2) Vietnam**; HF532, **Gun Truck Crew (1)**; HF533, **Gun Truck Crew (2)**; HF534, **SdKfz 11 Crew (1)** and HF534, **SdKfz 11 Crew (2)**.

All the items are price and release date TBA. See the web site of Marco Polo Import, their U.S. importer, at marcopoloimport.com

Legends

Legend's U.S. importer, Squadron Mail Order was kind enough to provide us with images of the following two new kits. They are LF 1023, **IDF Magach 7 MBT Conversion** (retail $79.98) and LF 1027, **K1A1 (ROK) Army MBT** (retail $155.98). If you don't happen to have a spare M60 lying around, there is also a full kit version of the Magach (stock number LF 1024) and it retails for $89.98. There is also a second version of the K1A1 (stock number LF 1027A) and this one includes a full set of AFV Club T-156 tracks. The retail on this one is $164.98.

Legends has a good reputation for quality and accuracy and both kits are stunners. For more information check out www.squadron.com

LSA Models

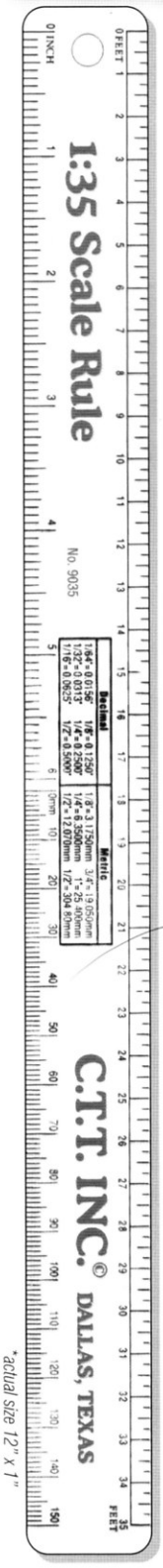
LSA is an English outfit producing unusual figures and accessories in white metal, and their two latest sets include resin bases as well. 3506 is **Russian & Prisoner**, featuring a Russian officer with PPsH bringing in a beleaguered German wearing a quilted jacket, with his hands clasped behind his head. 3507 is **Commandos Wading Ashore**, featuring two of Britain's finest from mid-thigh on up, with full rucks, weapons, and combat loads.

New Connection

You can depend on NC to flesh out the oddities, rarities, and lesser knowns. This time around they've created 3597, **Infrared Fighting Gear/Vehicles**, which features the entire night scope platform including MG42, all in resin. Also available is 35173, **SdKfz 234/Schwebelafette**. This is the 2cm Flak 38 in a modified smaller turret for the 234 and 251, introduced sparingly in late 1944. The set includes plenty of resin, plus a turned aluminum barrel and etched turret shields. Outstanding.

We had a look at one of the "up and comings" from New Connection. This is the unique **Flak 18 Bunker Buster** used in France in 1940. This utilized an armored and converted 8-ton half track to pull a standard Flak 18. New Connection offers this as a complete kit that includes the conversion parts for the half track

How Does Your Armor
MEASURE UP?



*actual size 12" x 1"

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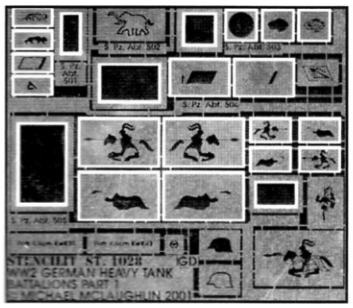

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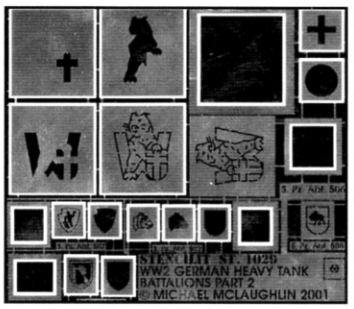

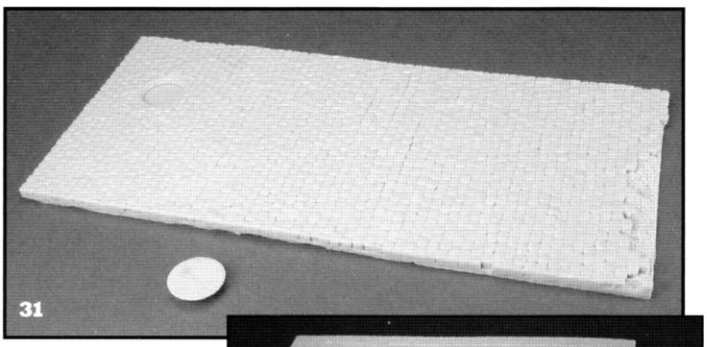

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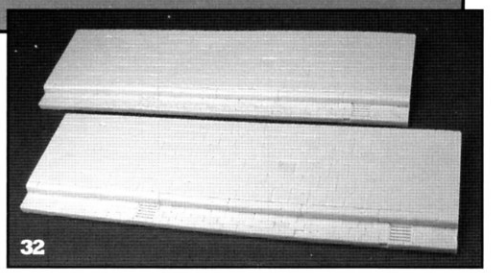

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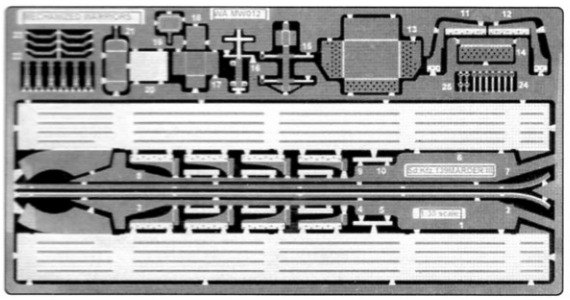

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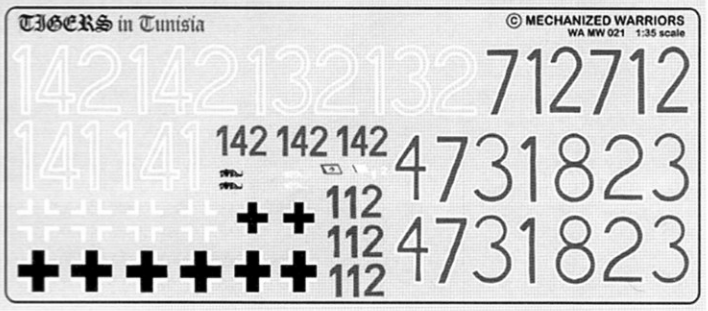

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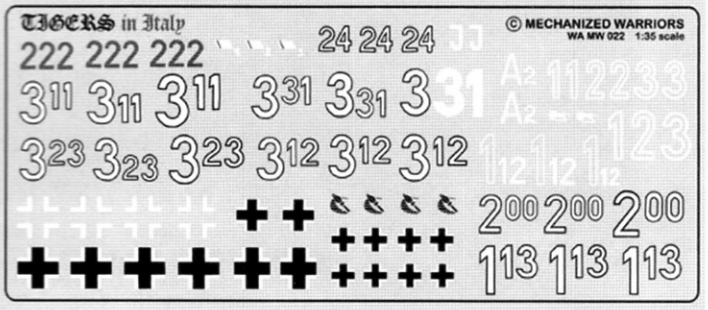

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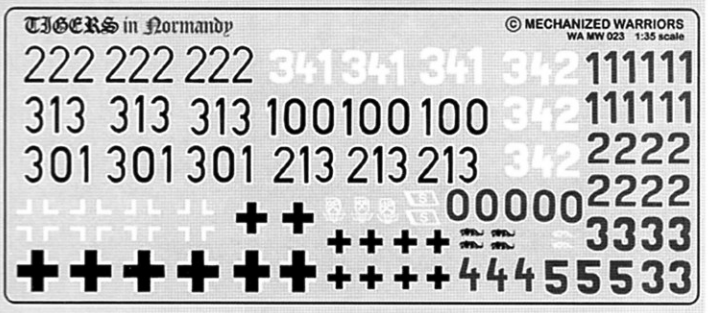


and a completely new resin and white metal model of the Flak 18! Cool, cool, cool.

On the figure front, look for HM09, **Afrika Korps Soldier with Tire Problems**, featuring a DAK chap leaning over working a tire pump. The tire, conical hubcap, small base, and optional head are also included. If you can't find 'em, try their website at www.new-connection.de/en/pome.htm

Precision Models

Precision comes to the States from Belgium via VLS, and we picked up their latest at Euro Militaire. (Man, you really should have been there on the Ampersand tour!) Okay, how many German guns can you name that fired 10.5cm ammo? (If you're only using five fingers, keep trying.) Say howdy to 35055Z, **10.5cm Munitions**, which delivers about 60 pieces, including open and closed canisters, plus shells.

Also new is 35052A, **Early Bergepanther, type D**; 35049F, **U.S. Tank Crew with PSP Plate** and 35051F, **German resting on 2cm Flak**.

U.S. prices are still TBA, but keep an eye on the VLS newsletter, as they stock the line.

PSP Models

The PSP crew in England has just filled in some very important missing links in the 1/35 armor market, and we're swooning. All prices listed are in English pounds. Here's their latest. 35027, **US M2 Treadway and Truss Support** (resin and etch), 46.00; 35028, **US Inflatable Boat, M2 Treadway** (resin and etch), 18.00; 35029, **US M2 Treadway Access Ramps** (four, resin and etch), 8.00; 35030, **USM2 Treadway Truss Support**, 18.00; 35031, **US M2 Treadway Section** (two, resin and etch), 16.00; 35032, **US Floating Treadway Bridge 32-ton**, includes four inflatable boats, 10 sections of USM2 Treadway, and access ramps (resin and etch), 142.00; 35033, **Truck Bridge Pontoon 6-ton 6 x 6 Brockway B666** (complete resin and etch vehicle), 136.00; 35034, **Mercedes L6500** (complete resin and etch vehicle), 70.00; 35035, **6x6 6-ton Corbitt** (complete resin and etch vehicle), 114.00; 35036, **Trailer, Full Flatbed, 16-ton Fruehauf**, 83.00; and SL355, **Corbitt Truck and Fruehauf Trailer Combo**, 150.00.

The two truck kits are fairly spectacular and the Pontoon truck contains a positively huge brass sheet. The "in the box" quality looks pretty good. We'll be building these for review in a future issue.

Reach 'em at pspmodels@wanadoo.fr

Resicast

These guys from Belgium are some of our personal faves—all Allied subjects flawlessly cast. And their latest release is a stunner. 35.230 delivers **Airborne Containers**, which includes three wicker baskets, three Mk.I containers (one is open), three E type containers (one of these is also open), and a pair of petrol cans wrapped in wicker. This is a great idea; these containers littered Europe in WWII, and even your German dios will benefit with some of these laying around. Can't find 'em? Email the head honcho at Graham.SELLAR&yucom.be All the way!

Royal Models

If this list doesn't make you dance with glee, we don't know what will. Think about packing your Christmas stocking with all the following Royal goodies. RM 249, **U.S. 50cal. Ammo Cans**, $9.95; RM 250, **Untoff. Gebrigtruppe**, $10.95; RM 251, **Italian Officer "Btg Azzurro,"** $10.95; RM 252, **German Heads Set No. 1**, $6.95; RM 253, **SdKfz. 231 (6-rad) Armored Car Detail Set**, $31.95; RM 256, **2cm Flak 38 Detail Set**, $22.95; RM 257, **DKW ZN350 Motorcycle Detail Set**, $11.95; RM 259, **German Bicycle WWII Detail Set**, $11.95; RM 261, **Marder III (SdKfz. 139) auf. Gw. 38t Detail Set**, $56.95; RM 262, **SdKfz. 184 Elephant Detail Set**, $26.95; RM 263, **SdKfz. 184 Ferdinand Detail Set**, $26.95; RM 264, **Ferdinand/Elephant Fender Set**, $18.95; RM 265, **SdKfz. 231 (6-rad) Armored Car Wheels and Tires**, $16.95.

RM 250 and 251 are re-releases of earlier sets, now including just the figure. For additional information and photos, see the CMD ad elsewhere in this magazine.

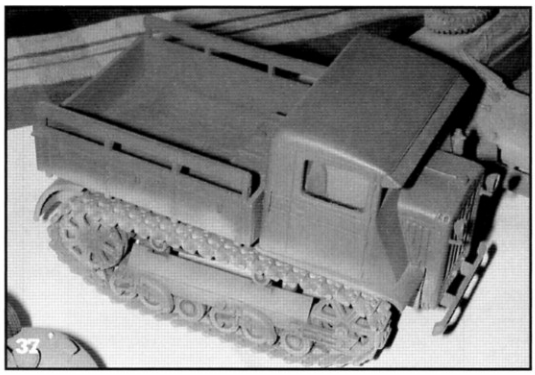
Scale Card

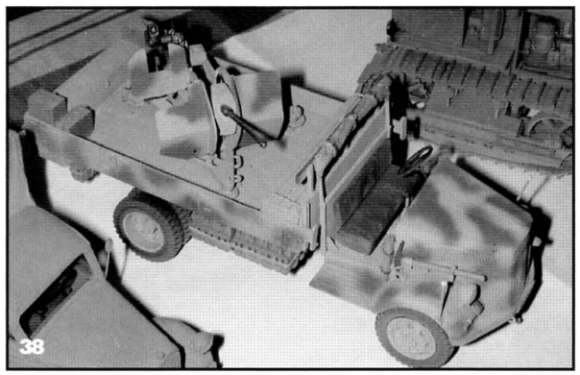
We've seen a lot of scale rulers in our time but these get the blue ribbon. The Scale Cards are about the size of a playing card, perfectly printed on clear thick acetate to help you scale out figures, doorways, stairs, and just about anything else. They've produced both 1/35 and 1/76 versions, plus a ruler which incorporates both scales on a 6" strip. The ruler is $2.95 and the cards are $4.95, postage paid. You can find 'em online at www.thescalecard.com There are lots of scale measuring devices out there and at reasonable prices, it makes sense to have 'em all.

Scale Model Accessories

Tamiya's revised Field Kitchen has everyone cranking out foodstuffs (thankfully), and SMA has a new cook. 054 is **German Cook with Crates,** featuring a one-piece casting of a cook in apron and undershirt hefting a crate o'produce. Also included are three open wooden crates containing cans, sausages, potatoes, and more.

For more information see the SMA web site at www.smal.sageweb.co.uk





29, 30. Two of the newest from Stencilit, in this case two of the German Heavy Tank sets. Note the multi-level parts for creating markings with several colors. 31, 32. The new Cobblestone Street and Sidewalk sections from Tiger Werke. That small disk is a manhole cover! 33. Warrior's Marder III detail set includes a full set of fenders. 34-36. The first of three new dry transfer sets from Warriors, all centered on the Tiger I. Cool. 37. Wespe's new S-2 Soviet WW2 Tractor. 38. The Opel Flak Platform from Wespe. 39. Wespe's WW2 Stalinetz S65 Tractor, this is the baby that pulls the 203mm-tracked howitzer.

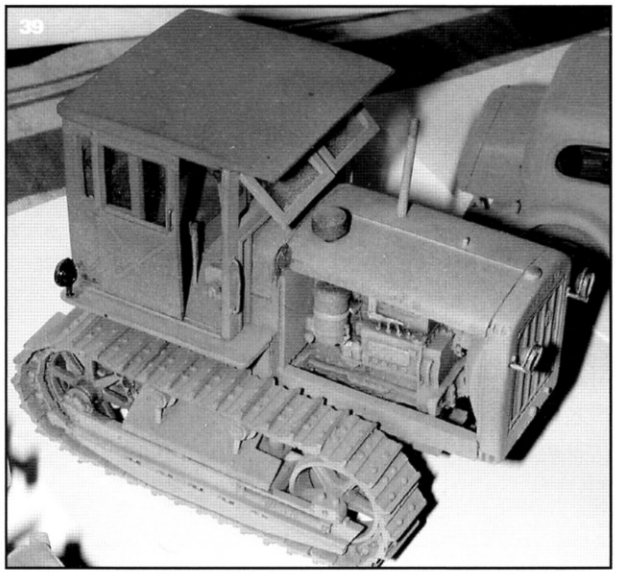
Skybow

Strange, but true, Skybow has announced the next in its wonderful series of **Dodge 3/4-ton trucks**. This time around it's the **M37**, the post-war and Vietnam version. Given the phenomenal quality of the other releases, this one should be a stunner. Look for kit TP 3507, although price and exact release date are both TBA. VLS are the ones to watch for more information.

Stencilit

These wild men from the UK were the first to offer a line of miniature stencil for creating marking on armor. Here is the very latest. 1028, **German Heavy Tank Battalions Part 1**; 1029, **German Heavy Tank Battalions Part 2**; **5th SS Panzer Div. Wiking Panther Numbers**; 1033, **German Tank Numbers** and 1040, **WW2 US Army Vehicle Specific Serial Numbers**. The German marking contains several multi-level stencils for the creation of multi-color markings, Neato!

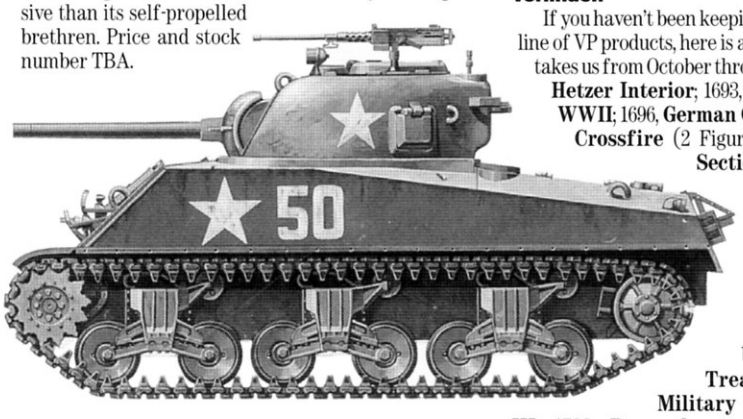
Direct inquiries to Stencilit, c/o Scale Link Ltd., R/O Talbot Hotel, Blandford Road, Iwerne Minister, DT11 8QN, England, or go to www.scalelink.com



Tamiya

Coming your way in November is 35250, the re-released 1/35 **M4A3 Sherman 75mm**, with two new infantry figures and accessories. Slated for December is the **M4A3 Sherman with 105mm Howitzer** with a trio of new fighting infantrymen, plus accessories. Both these kits will be based on the earlier M4 release and have new parts along with the figures. We'll take 'em! Price on both is TBA at press time.

Also up for end year release is the static version of the RC Tiger. This should be considerably less expensive than its self-propelled brethren. Price and stock number TBA.



TechStar

VLS' eclectic in-house line has several more etch products to tempt your wallet. Check out 1028, 1/35 **German Cuff Titles WWII**, $11.95; 1031, **120mm German Cuff Titles WWII**, $14.95; 1032, **120mm German Uniform Insignia WWII**, $14.95; and 1033, **1/35 German Uniform Insignia WWII**, $11.95.

Tiger Werke

If you don't know Jef Verswijvel, you know his work. He spent many years producing masters for Verlinden Productions, then started KMC and Black Box. Now he's bringing us the stuff we love and the stuff he does better than anyone. His new line launches with resin diorama accessories. 35001 is **European Theatre Cobblestone Section**, a 4.25" x 9.25" sheet including separate manhole cover. 35002 is **European Theatre Sidewalk Section**, a 2.75" x 9.25" strip which includes the gutter and drains. Simply stunning. Get 'em at (304) 454-2410, or online at Jefvplus9@aol.com

Verlinden

If you haven't been keeping up with the ever-growing line of VP products, here is a 1/35th scale run-down that takes us from October through December of 2001. 1692, **Hetzer Interior**; 1693, **Military Cargo German WWII**; 1696, **German Gun Crew** (3 Figures); 1697, **Crossfire** (2 Figures); 1698, **Ruined Castle Sections**; 1699, **Streetfighters Diorama Base**; 1700, **US Recon WWII**; **1701, German Officer & NCO**; 1703, **M12 Detail Set** (Academy); 1704, **Medieval Castle Set 2** (Plaster & Resin); 1705, **US WWII Steel Treadway Bridge M2**; 1707, **Military Models & Dioramas Vol. III**; 1708, **Panzerfaust Ambush**; 1711, **German Infantry & Tank Commander** (1+1/2 Fig.); 1712, **US Infantry WWII Running** (2 Figures); 1715, **Pak/Flak Emplacement**; 1716, **SP Gun Crew** (3 Figures); 1717, **Marder / 38T Interior Detail set** (Tamiya); 1718, **Palm Tree Seawall Elements**; 1720, **Souvenir Hunters** (2 Figures) and 1721, **Sanitater** (2 Figures).

The VP line of products has always been known for its exciting innovations and that Treadway bridge is certainly a fine example. For more information and stunning photos of the line (including quite a few non-1/35th scale items), check their very cool web site at verlinden-production.com

Warriors

This time around the Mechanized Warriors series brings you MW012, **Marder III Detail Set**, an etch sheet, including fenders, for the Tamiya kit at $22.95; MW013, **Marder III Damaged Road Wheels**, resin castings of the Tamiya wheels with knicks and wear for $12.95; MW014, **USM-6 3" Gun Conversion** (resin and etch), for the Italeri 155mm gun at $29.95 (formerly KMC); and MW015, **1/16 Type 82 Kubelwagen Tires**, a standard set of wheels for Tamiya's big kit, $16.95.

Warriors is also cranking out a brand new line of dry transfers. They are MW021, **Tigers in Tunsia**; MW022, **Tigers in Italy** and MW023, **Tigers in Normandy**. Each of the sheets retails for $19.95 and they all contain boku markings for your next square-shouldered cat.

Wespe

We have a line on a new resin company out of Romania. They produce a small, but interesting line of kits representing a fairly diverse range of vehicles. Here's what the list looks like so far. 004, **Marmon Herrington Mk III**; 005, **Opel Kadett**; 006, **Horch 830 Staff Car**; 007, **Stalinetz S65 Tractor**; 008, **Opel Flak Platform**; 011, **CMP 15cwt "Kubel"**; **S-2 Russian Tractor** and **Chevrolet LRDG Early Type**. Those last two items are too new for a stock number and U.S. retail prices are yet to be established.

The quality looks OK and we snagged a single kit to review in a future issue. Hopefully, by that time we'll be able to give you more information on the availability of the line. In the meantime, check out the accompanying photos.

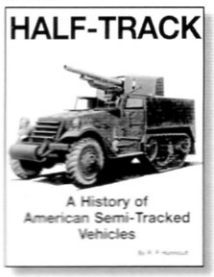
For now you can direct inquiries to Wespe Models, 23 N. Balcescu Street, 2000 Ploiesti, Romania. E-mail: wespemod2000@yahoo.com

Woodland Scenics

As a pure courtesy to you, our beloved readers, we're going to advise you to head to your local hobby shop this winter and check out the new line of foliage from Woodland Scenics, who cater almost exclusively to the train market. They're introducing a whole new generation of clump foliage and underbrush that is breathtaking and will add plenty of depth to your dios. A variety of colors are being produced. The new underbrush series is FC134 through FC139; the new bush series is FC144 through FC149; and the new clump foliage is FC682, 683, and 684. Also look out for their new **Realistic Water**, a one-part liquid which is poured over your riverbed and dries naturally. 16 ounces will retail for $14.98, and their demo blew our minds. Also forthcoming is Water Effects, a thicker liquid for creating rapids, whitecaps, and waterfalls. 8 ounces will cost $10.98. We'll bring you a feature article as soon as we can get our hands on this stuff.

Book Reviews

Half-Track
A History of American Semi-Tracked Vehicles
by R.P. Hunnicutt
Presidio Press
Hard Cover
240 pages, B&W with 7 color pages
ISBN 0-89141-742-7
$80.00



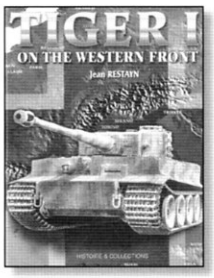
IT'S ABOUT TIME SOMEONE PRODUCED a definitive resource on the US half-track family of WWII. Mark another one off the wish list, boys, 'cause here she is. Hunnicutt's latest is absolutely packed with hundreds of photos and schematics detailing the development, production, and deployment of the M3 family in the 1940s and early 50s. If you can say you've already seen all the vehicles shown here, well, we just won't believe you. The better known personnel carrier, mortar carrier, .50 cal gun carriage, and 75mm are shown in depth, along with numerous variants to get your scratchbuilding fever going. If US soft skins are your forte, order this one now. If they aren't your forte, order it anyway.

Wespe in detail
by Frantisek Koran and Jiri Starosta
Wings and Wheels Publications
Special Museum Line No. 20
Soft Cover
36 pages, color throughout
ISBN 80-86416-10-0
$20.00

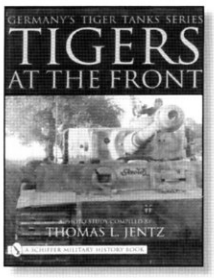
NESTLED SAFELY AWAY IN the WTS Museum in Koblenz, Germany sits a magnificently restored Wespe, and the authors have photographically attacked it with gusto. Every facet of the vehicle is well photographed and documented and the crisp photographs are accompanied by numerous line drawings to help fill in the missing pieces. The driver's area and transmission are shown to good effect, and all components of the Wespe are explained in each caption. Kudos to both the restorationists and the photographers on this one. So take out your Tamiya kit, and get busy.

Tiger I on the Western Front
by Jean Restayn
Histoire & Collections
Hard Cover
144 pages, B&W photos with color plates
ISBN 2 913 903 134
$37.95

TWO YEARS AGO H&C BLEW OUR SOCKS OFF WITH TIGER I on the Eastern Front. This time around it's the Tiger units operating against our guys in Western Europe, as well as North Africa. An excellent history of these units is provided in photographic form, covering heavy Panzer battalions 501, 503, 504, and 508, plus SS heavy Panzer battalions 101 and 102. A few other specialized units are outlined as well, including Kompanie Hummel. Each unit has its own section featuring photos of tanks specific to the unit, plus color plates detailing it. This one's just right.



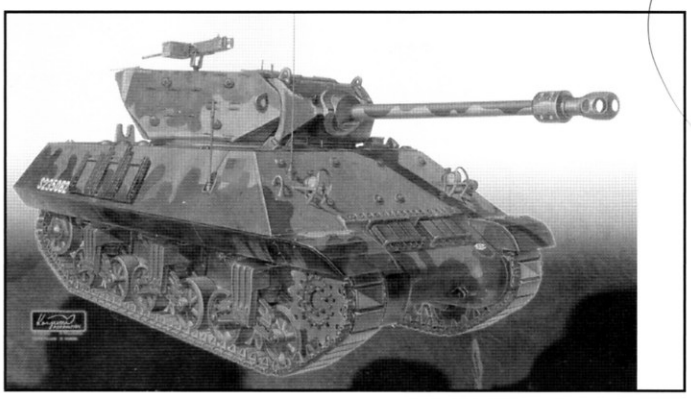
Tigers at the Front
by Thomas L. Jentz
Schiffer Publishing
Hard Cover
208 pages, B&W throughout
ISBN 0-7643-1339-8
$29.95



THOMAS JENTZ HAS ALREADY published three in-depth volumes on the Tigers, and this time around the tanks are presented in a photo study. There is little text outside the captions, which should delight some modelers who prefer to focus just on photos. And what photos! Just when you think you've seen everything on the Tiger, more pics are unearthed. Every theater of operations is covered here, broken down by section and unit. A few other vehicles wander into the frame now and again, making this a fine addition to your German armor book collection at an attractive price.

YOUNG GUNS

35034 M35A1 GUN TRUCK 1/35 SCALE



35039 ACHILLES Mk.IIc 1/35 SCALE

35040 SdKfz 11 3-TON HALFTRACK
35043 WHEELS FOR SdKfz 251
35048 FH18 105mm CANNON
HF-027 M35A-1 GUN TRUCK (II) APC CONV.
HF-028 M35A-1 GUN TRUCK (II) FSV CONV.
HF-032 EQUIPMENT & HOOD for SdKfz 11
HF-530 M35A-1 QUAD 50 CREW
HF-534 SdKfz 11 CREW #1

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PAPER PANZERS

by Thomas L. Jentz and Hilary Louis Doyle

New Panzer Designs For Modelers

As usual, when preparing the text for one of our books, we exhaustively search for all the surviving original German records in public archives, museums and private collections. Finding detailed accurate information was an especially difficult task for our current project on "Paper Panzers"—the conceptual design projects initiated in Germany during World War II. Many of these projects were very short lived and never got off the drawing board. Often, only conceptual design sketches were created and a few notes were made to record meetings when the idea was proposed and then abandoned. In most cases we were lucky that anything survived at all, due to the devastation of Germany by the end of the war.

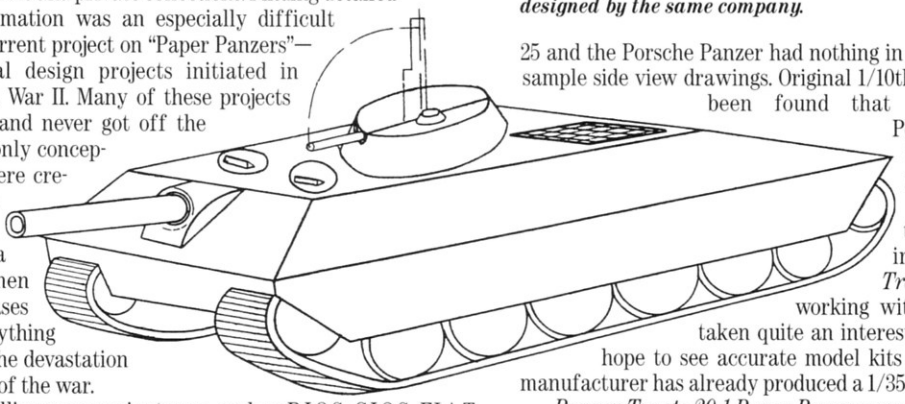
Allied technical intelligence agencies teams, such as B.I.O.S., C.I.O.S., F.I.A.T., S.B.S., and S.T.T., targeted the German industry after the war and gathered over 95% of the original drawings and records that have survived. These teams of looters did us a great service in rescuing original records. Having been created by the engineers directly involved in the conceptual design projects, these original records are the primary source of factual information for our books, including *Paper Panzers*.

Unfortunately, the reports created by these same Allied technical intelligence teams are full of errors. But as they are in the English language, authors persist in using them even though they are not "primary" sources. The team investigators were frequently led astray by asking the right questions to the wrong person or were given information created on the spot without reference to original documents. In addition, these investigators jumped to conclusions that were not supported by the facts.

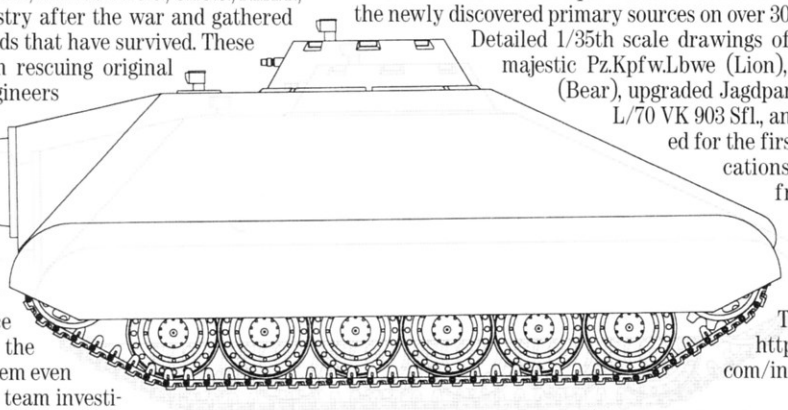
Such is the case of the C.I.O.S. report on the Investigation of the Wartime Activities of Dr.Ing.h.c. F. Porsche, K.G. on the Projected 27 Ton Sturmgeschuetz. They mixed primary source material on the Porsche 245 in with data obtained from memory on the 27 Ton Sturmgeschuetz and the Voith automatic hydraulic transmission. Voith had accurately reported that they were creating transmissions for both the E 25 and a Porsche Panzer. From this, the investigators erroneously assumed that the Porsche 27 Ton Sturmgeschuetz was somehow connected to or was the E 25 project. This erroneous data has been subsequently repeated in postwar books and magazine articles.

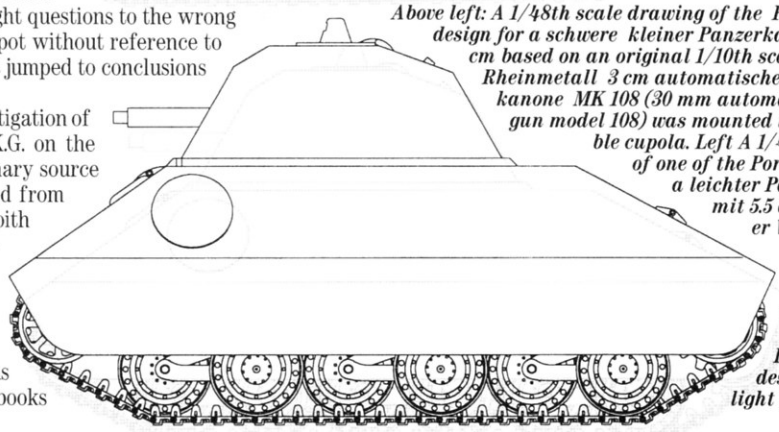
Fortunately, we found additional original records on both the B 25 design from Argus and the schwere kleiner Panzerkampfwagen mit 10.5 cm design from Porsche/Rheinmetall. Other than Voith designing the transmissions for both projects, the Argus E 25 and the Porsche Panzer had nothing in common, as can be seen from our sample side view drawings. Original 1/10th scale drawings and reports have been found that trace the evolution of the Porsche/Rheinmetall design from its conception in May 1943 to the final effort in June 1944. Finding original drawings has allowed us to prepare the multi-view drawings that are printed in *Panzer Tracts 20-1 Paper Panzers*. We are working with the model industry, who have taken quite an interest in these historic designs, and we hope to see accurate model kits in the near future. One resin kit manufacturer has already produced a 1/35th scale E 25.

Panzer Tracts 20-1 Paper Panzers contains rare data and drawings from the newly discovered primary sources on over 30 conceptual design projects. Detailed 1/35th scale drawings of such rare projects as the majestic Pz.Kpfw.Lbwe (Lion), gigantic 30.5 cm Sfl. Bär (Bear), upgraded Jagdpanzer 38 D, makeshift 7.5 cm L/70 VK 903 Sfl., and mighty Maus H are printed for the first time. Panzer Tracts publications can be ordered directly from P.O. Box 334, Boyds, Maryland 20341, email panzertracts@aol.com. Example pages are displayed on the Panzer Tracts website at http ://panzertracts 1 tripod. com/index/htm.

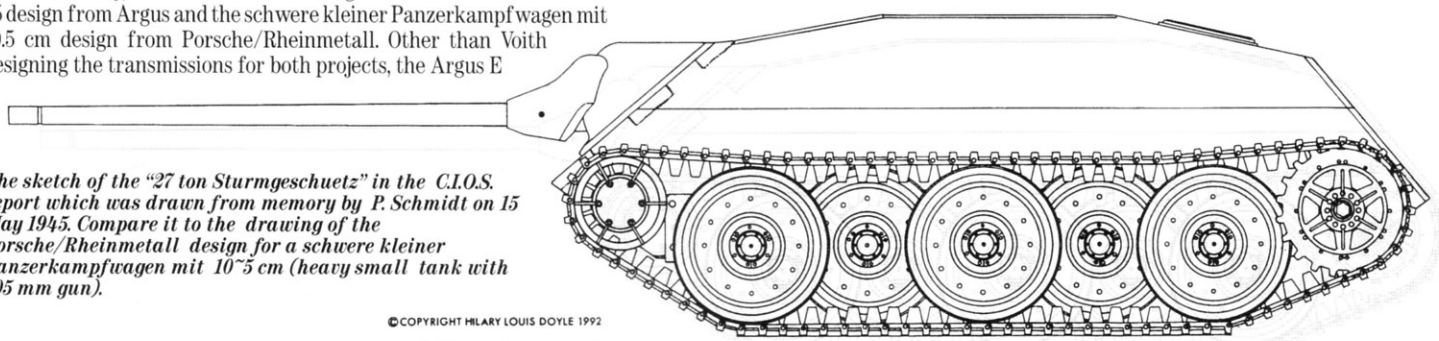


A 1/48th scale drawing of the E 25 based on an original drawing from Adler. Not a single component is shared between the Adler and the Porsche design. The only crosstie was that the rear mounted transmissions were designed by the same company.





Above left: A 1/48th scale drawing of the Porsche/Rheinmetall design for a schwere kleiner Panzerkampfwagen mit 10.5 cm based on an original 1/10th scale drawing. A Rheinmetall 3 cm automatische Fliegerabwehrkanone MK 108 (30 mm automatic anti-aircraft gun model 108) was mounted in a fully traversable cupola. Left A 1/48th scale drawing of one of the Porsche 245 variants - a leichter Panzerkampfwagen mit 5.5 cm vollautomatischer Waffe (light tank with 55 mm fully automatic gun). Very few components were shared between these two Porsche conceptual designs for heavy and light tanks.



The sketch of the "27 ton Sturmgeschuetz" in the C.I.O.S. report which was drawn from memory by P. Schmidt on 15 May 1945. Compare it to the drawing of the Porsche/Rheinmetall design for a schwere kleiner Panzerkampfwagen mit 10~5 cm (heavy small tank with 105 mm gun).

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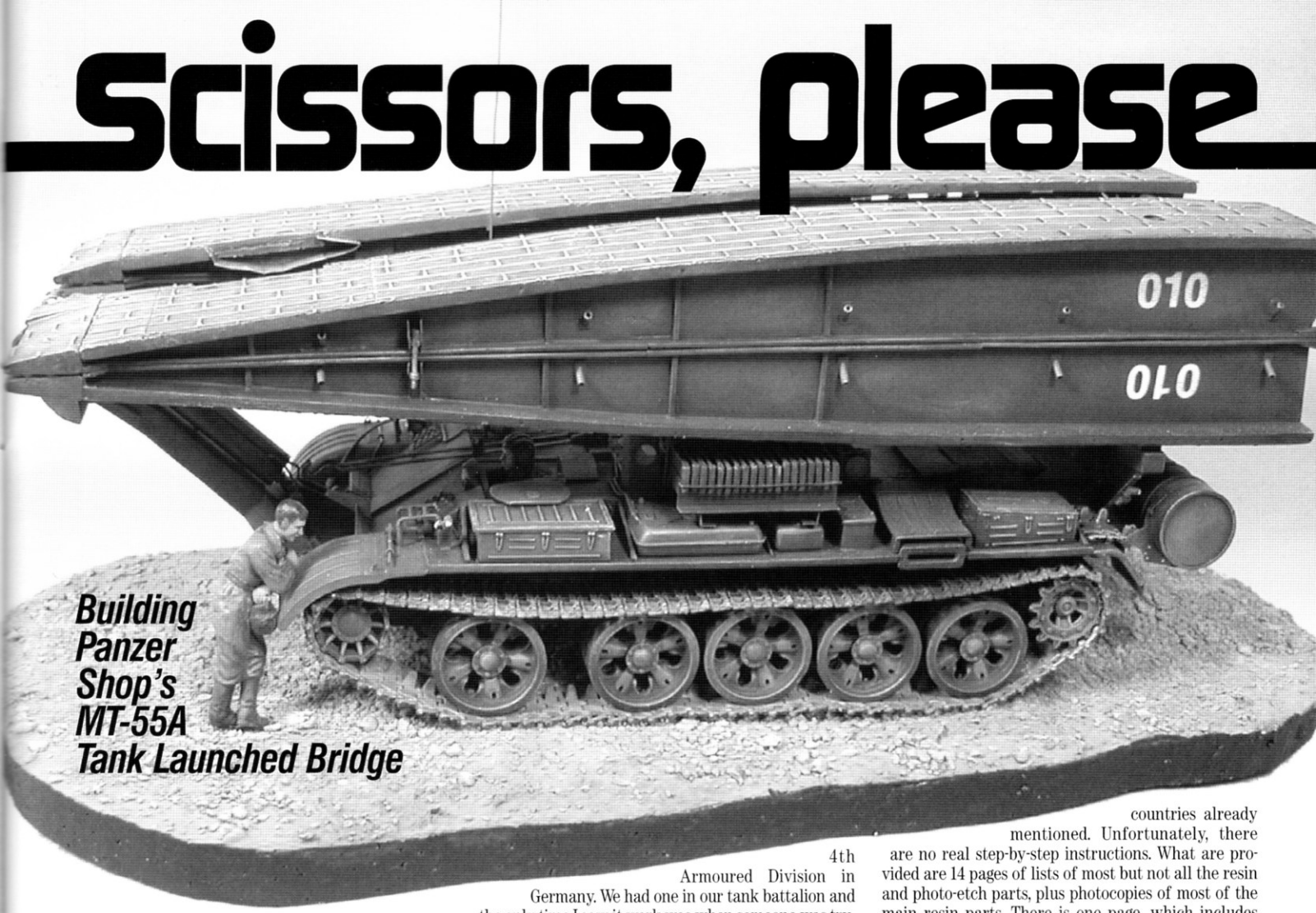
Scissors, please



Building Panzer Shop's MT-55A Tank Launched Bridge

Almost as soon as the tank was first developed during World War I, someone has been trying to put a bridge on one to overcome one of the tanks major shortcomings, crossing gaps. A number of tank-launched bridges were developed by the Soviets between the wars, including the IT-28, of which ICM makes a kit. In 1958 the Soviets started to produce and deploy their latest effort in this area, first with the MTU-1, followed by the MTU-20 in 1967. These replaced the older T-34 tank-launched bridge. The MTU-1 was mounted on the T-54A, while the MTU-20 was mounted on the T-55 tank chassis. The MTU-20 bridge, however, was not a scissor type bridge but, instead, the ends just folded down. Although this was a simpler design and only required a simple chain-drive launch system, it took 5 minutes to launch and because of its size was difficult to maneuver. The advantage of the scissor type bridge is it's much faster, with a launch time of around 1.5 minutes and it is only a little longer than a normal tank. The chief disadvantage of the scissor type bridge is the complicated hydraulics that are needed to launch and retrieve the bridge.

Although the Warsaw Pact usually took Soviet "hand-me downs" in military equipment, they apparently did not always accept their hardware without question. The MTU-20 was a case in point where several countries decided they could build a better tank-mounted bridge using the scissor type. First the East Germans, in conjunction with the Poles, developed the BLG-60, also based on the T-55 chassis. Then the Czechoslovakian Army ordered a similar design in 1970 based on the BLG-60. They designated theirs the MT-55, which has a length of 18 meters when extended. A later version was called the MT-55A, which is the subject for this article.

I have fond memories of our own AVLB, which is very similar to the MT-55 and BLG-60s, when I was in the 4th Armoured Division in Germany. We had one in our tank battalion and the only time I saw it work was when someone was trying to show if off. They got it down but never up again. We used the bridge as a wash rack for several years since they could never get the parts to fix the hydraulics.

A super combo please

Libor Matejka who owns and operates the Panzer Shop in the Czech Republic has really put together a terrific combination kit for his newest conversion effort of the Czech Republic's MT-55A Tank Launched Bridge. Libor offers several options, starting with the basic conversion kit all the way up to a deluxe combo kit, which is what I got. The deluxe combo kit contains the Trumpeter T-55 kit, Friulmodel T-55 or T-72 tracks (I opted for the T-55 ones) a Model Point antenna mount, plus a CD ROM with reference photographs. Libor advertises this kit as for the "Experienced Modeler Only!!". He is not kidding, but read on.

The Panzer Shop kit truly falls into the category of multimedia. I cannot think of any missing "media" in the kit. There are over 280 resin parts cast in an ivory color. There are a few air holes here and there, but not many. Also, there are very few pour plugs. There also are over 293 photo-etch parts found in two different photo-etch sets, including one made by Eduard for the MT-55. The Eduard set consists of two sheets of Eduard photo-etch parts, which are for the T-55 chassis, including the mounting hardware for three rear fuel tanks. Libor also supplies a very large brass photo-etch sheet, primarily for the bridge, but there are some parts for the T-55 chassis. Additionally, there are bits of string, brass wire, and aluminum rods. Decals and stencils are also provided for a Czech, Slovak and Czechoslovakian version, along with reference material for placement of all the decals.

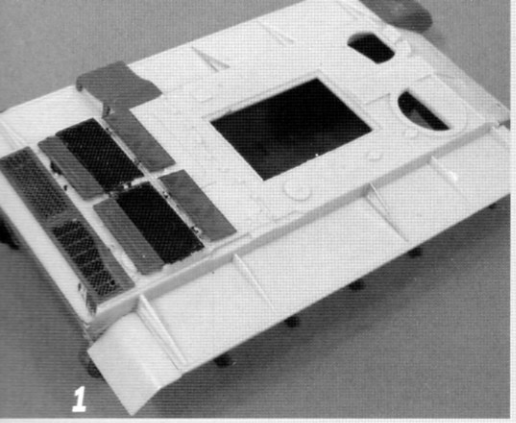
A CD ROM with reference material, including: 39 photographs of the real thing, 48 photos of the model before painting, 39 photos of the painted model, even photos showing the markings in the three different countries already mentioned. Unfortunately, there are no real step-by-step instructions. What are provided are 14 pages of lists of most but not all the resin and photo-etch parts, plus photocopies of most of the main resin parts. There is one page, which includes fairly typical Eduard photo-etch parts instructions for their two photo-etch sheets, and the rest are photographs of the completed model with the various parts labeled. After that you are pretty much on your own. After feedback from some modelers, Libor posted all of the same photos and labeled part numbers on his website that are on the CD ROM, plus a few new ones. All of these can be downloaded at the Panzer Shop website (see reference below). Trust me, you will not be able to figure out this puzzle unless you have these labeled photos.

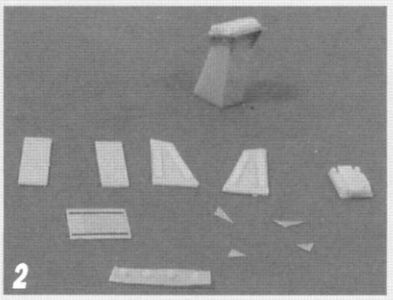
Approached this complicated kit

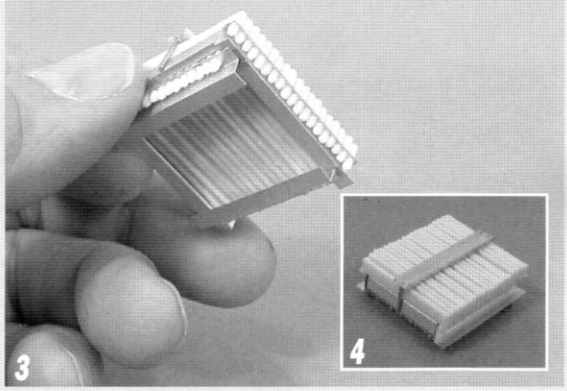
As this is one complicated kit and there are no real instructions consisting of steps, I pretty well had to wing the correct procedures. I decided to start with the T-55 chassis and then move on to the bridge, since they are really two separate projects.

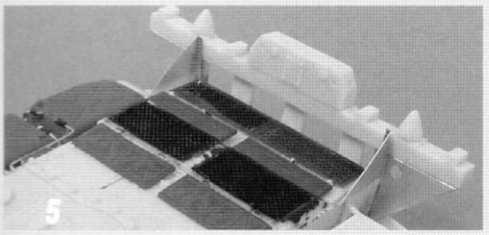
Trumpeter or not. NOT!

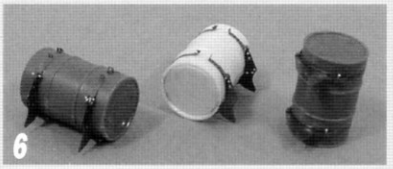
When I bought this kit, I wanted to try the Trumpeter kit since I heard a lot about it, most of it not good. I am an optimist when it comes to kits and I often assume a lot of negative reports are from nitpickers and not always totally correct. My philosophy is, if it looks right, I am happy. I just can't get hung up on minutia like some of my fellow modelers. Unfortunately this is one time the criticism is well deserved. The biggest problem was with the hull and suspension. After carefully studying it, I realized the hull is too high and the idler and drive sprocket are also mounted too high. This is readily apparent when you look at the space between the roadwheels and the fender and the alignment of all the wheels on the completed model. To correct this you need to first cut down the hull section. This would also require moving both the drive sprockets and idler mounts down, otherwise the track would not fit underneath the fenders. Not all of this was

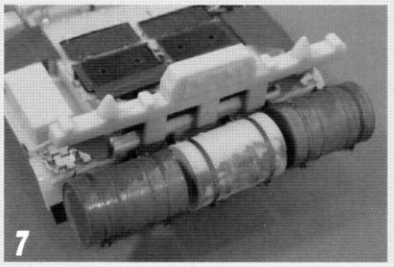


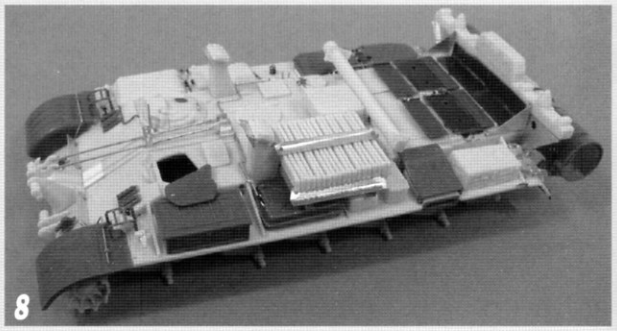


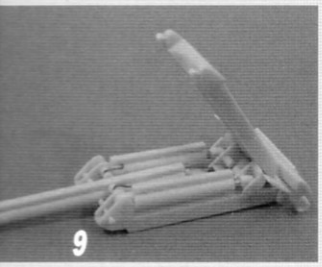






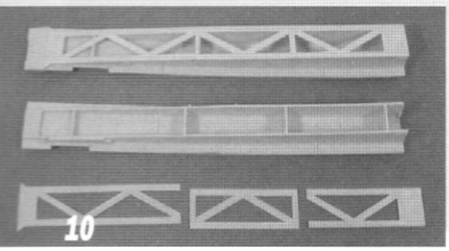


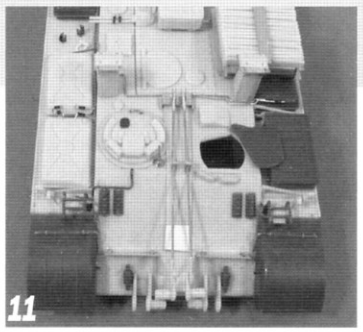


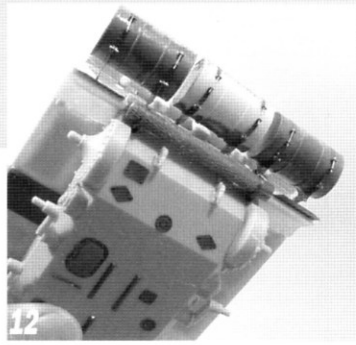


1. The fender supports are mostly from the resin kit. I added two photo-etch braces from an On the Mark photo-etch set. I originally used the screen material from the Trumpeter kit for the forward vents but replaced them with the Eduard photo-etch ones. 2. The two support posts are rather difficult to figure out but easy to assemble once all the parts are identified. 3. The platform loaders, no I have no idea what they are for, were difficult to figure out. The loaders need a little trimming to fit into the holes in the photo-etch pieces. 4. The complete platform loader section ready for attaching to the chassis. The top bar needed to be shortened a little so the brass wire would fit correctly. 5. The rear support bar also has a number of pieces. The two cone shaped bumpers need to be cut down to allow the bridge to sit flat on the bar. 6. The three fuel tanks with the Eduard photo-etch mounting hardware. The resin one is a direct copy of the plastic ones. Brass wire still needs to be added to complete the bands.

7. The fuel tanks were not easy to attach since there were not any clear attachment points for the outer two tanks. 8. The completed chassis showing all the added detail. The driver compartment was left open to allow the addition of a figure to give some scale to the vehicle. 9. Solder wire was added to simulate tubing. This assembly was the most difficult part of constructing this model for me. The round aluminum shafts are supplied by Libor to use in all the cylinders. 10. The support pieces were easy to clean up and glue to the four ramp sections after the resin pour plugs were removed from the ramps. 11. The white area on the front glacis plate is a correction that needs to be added, otherwise the mounting attachment will sit too high on the hull. 12. The deditching log was taken from the Trumpeter kit. The Eduard photo-etch mounts were used but easier to use parts are supplied in the ESCI kit. Also notice all the nice photo-etch parts that Eduard supplies for the hull bottom.







readily apparent to me until I actually started building the kit using the Trumpeter hull. I could have gone back and corrected the problems I mentioned, but I had an ESCI T-55 kit just lying around waiting for a conversion to a T-54 so I used it. I did continue to use other parts from the Trumpeter kit, since most of them are actually pretty good.

Hull and suspension

I used the ESCI kit instructions as far as they would take me, which was not terribly far. I assembled the drive sprockets and idlers. The roadwheels furnished with both the Trumpeter and ESCI kits are totally inaccurate, therefore I had to replace them with the excellent resin roadwheels from Chesapeake Models. These were cleaned up and mated together using the jig that Bill Miley furnishes with his roadwheel sets. Once ready, I set them aside until after painting. I did use the ESCI kit idlers and drive sprockets.

I then glued the axles on and other details on the hull bottom. The Eduard photo-etch sheets for the MT-55 include a number of pieces for the bottom, most of which I used. Next the mounting brackets (C-4) were added to the bottom front. Actually, Libor provides these same brackets, called R107, but they looked a little thin. I added the rear plate and the covers for the drive sprockets C26 and C27.

The Friulmodel metal track links were next to be assembled. These are the wired together type, which are much better than the older, crimped together ones. The older types tend to pull apart from their own weight over time, which causes excessive sagging. After assembling all the links for each side, I glued the pins in with a touch of superglue to keep them from falling out.

The replacement resin hull top was then glued on. I originally had glued it on the Trumpeter hull, where it fits very well since it was designed for that hull and not the ESCI. When I moved it to the ESCI hull, I had to make a few more alterations, beginning with cutting the rear down a little bit, but this was not a real problem.

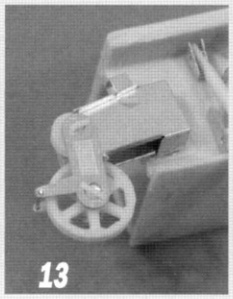
Fenders and grills

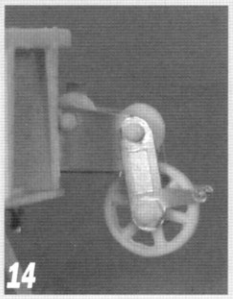
Now the real fun began. I used the Trumpeter kit forward fender pieces, A44/45, but the rear ones are from the resin kit. I also used the resin fender braces. For some reason there appear to be two braces short on the right fender. To make up for these I added two extras from a photo-etch set by On-The-Mark for the T-55 I happened to have.

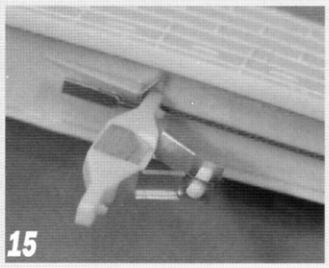
I wanted to leave the two sets of rear vents on the engine compartment open since I like the screens. The Eduard photo-etch set has all the screens for the rear set of vents. Unfortunately, the center two screens (number 57) are not long enough. I first tried the screen material supplied with the Trumpeter kit but I did not like them so I replaced them with the Eduard screens. To do this I glued a thin strip of styrene on each outside opening to cover the gap left by the photo-etch screen. I then added the Eduard photo-etch vent covers in the open position. I used the resin panel covers for the two hatches on the rear deck. I used the Trumpeter kit parts for the exhaust cover, including A32, 33 and A13. Actually, Libor included the replacement for A32, but I did not see it until too late. They appear to be the same, so it really doesn't seem to matter.

Now for the fender fuel tanks. There are two extra resin fender mounted fuel tanks to supplement the normal three that go on the T-55. Four tanks are on the right fender and one on the left. I wanted to add the fuel lines, so after carefully studying the supplied photos I was able to determine most of the fuel line layout. I used brass wire to make the fuel lines. There are rubber connectors in a number of places that I represented by using hollow rubber tubing I slipped over the brass wire. I did not duplicate all the lines that run over the top of the vehicle, but just enough to represent the real ones.

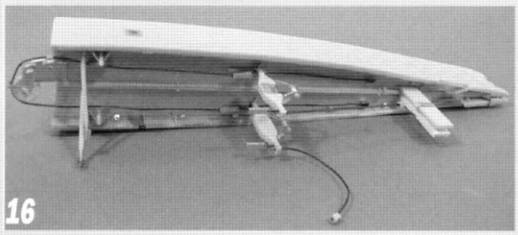
Another difficult assembly was something called the platform loaders. The diagrams did not show the bottom part of this construction and it took a while studying the photos to figure it out. There are two rows of these platform loaders. One goes on the bottom and the other one on the top. The bottom ones tend to

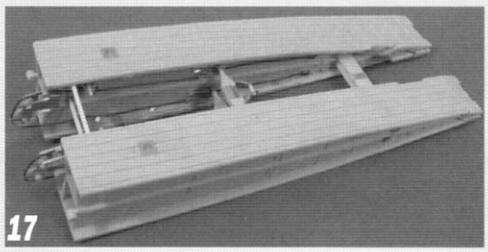


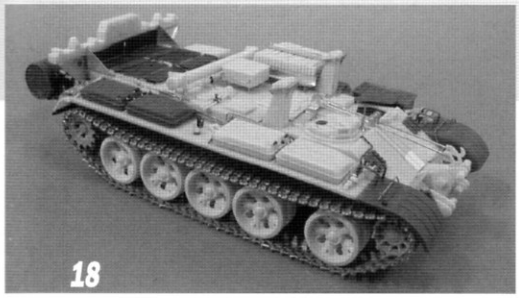


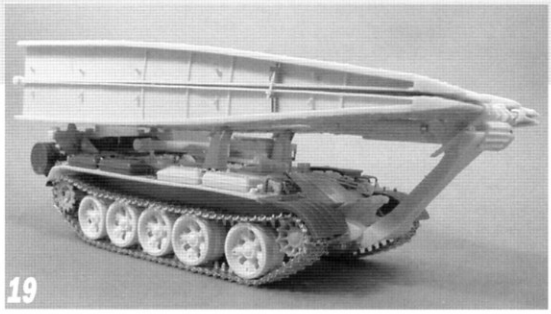


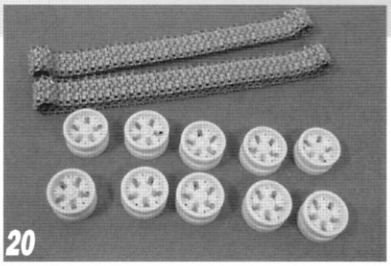
13.This wheel assembly requires careful study to figure out all the parts. Use the reference photos of the real one to be sure to assemble them correctly. 14. The other side of the wheel/pulley assembly. Notice that the rear of the mounting bolts for the pulleys are on this side. 15. This middle support requires drilling out two holes on each end for the wire/string to go through. 16. One side is now complete. I chose to use Hudson & Allen tow cable wire, instead of the supplied string. The disadvantage of this is you cannot pull the wire tight enough, but I think it looks more realistic. 17. The ramp sections all assembled. The wiring is now complete and all the braces are in place. 18. The Friulmodel tracks need to be made as tight as possible since they tend to sag on their own. I used the ESCI drive sprocket and idler. 19. The first test fitting. There was some final trimming to get the bridge to slide correctly on the carrier. 20. The Chesapeake roadwheels are a must on any T-55 kit. I added a small drop of super glue to each pin in the tracks to keep them in and to smooth them over. 21. The basic chassis after painting and weathering. I used scale tow cable instead of the kit supplied string for the two tow cables. I chose to use the Czechoslovakian Army symbols. 22. Another shot of the basic chassis before the hydraulic assembly was mounted. I added a couple of pieces of spare Friulmodel track for the rear fenders. 23. The hydraulic assembly has now been glued on and the Verlinden driver added, but with a Hornet head.











disappear and I did not see them at first. The bottom section is made up of two photo-etch parts (P41), which are not labeled in the instructions. Each of these has holes for the loaders to fit. I cut all the loaders out and cleaned them up first. The ends of these loaders are too big and need a bit of work to make them fit into the holes. I then glued a loader on each end of the two P41's to make them square. After that I glued the rest of the loaders in place. I did the same thing with the top section, which is made up of two photo-etch parts (P42). Once all the loaders were in place, I glued the top piece on the bottom one. I then glued the two end pieces (P40) on. The top photo-etch part (P43) that goes across is too long, so I cut one end off and redrilled the hole for the brass wire. I glued a piece of brass wire to both ends. I then added bolt heads to the top from my spares box. The whole assembly was then glued to the top of the hull. The parts (P41) serve as the mounting braces.

Refuel Please

The three 55 gal fuel tanks were then assembled. Two come with the Trumpeter kit and a third one, which appears to be a direct copy, Libor furnishes in resin. I glued the main pieces together and then the end pieces. You now have a choice of either using the Eduard photo-etch parts or just using the bands and mounting pieces that come in resin and plastic. I chose to use the Eduard stuff. I am always a glutton for punishment. Anyway, I cut and sanded all the straps off the tanks. I then glued the supports (parts 73) to the mounting pieces (77 and 83). These were then glued to the tanks. I then glued the straps (76 and 59) onto the tank and used brass wire for the pins in the attachments. Before mounting the tanks on the rear of the tank I filled in the four holes that run along the top, since they were not going to be used.

Now for the real fun of mounting the tanks. This is not easy. There are no clear shots of how the tanks actually mount. The center one is really no problem; it is the two outer ones that cause the problems. I noticed from the photos that Libor put an extension on the outer ones on the fender support to mount. I actually found that I was able to glue the base of the photo-etch mounts directly to the fender support. I was not wild about this solution but I did not see another way to do it.

Supporting the bridge

There are two support posts for the bridge to rest on which required a little figuring out before construction began. There are four pieces that make up the main post, R52,56,55,57, plus a top piece, R53. Once that is done there is one large piece of brass for the top (P34) and four supports two P35 and two P36. There are also four bolt heads that go on the bottom of the brass piece (P34) that are not labeled but are found on two of the wafers of resin, which also contains the other pieces of the support. Once these two supports were completed I glued them onto the hull.

The rear assembly was another challenge. This is the large bar that goes across the back of the vehicle. The main resin parts are R22, 24, two 114. There are also three resin supports (R66), which again are not labeled and very difficult to see in any of the photos because the three fuel tanks cover them. I glued on the two photo-etch pieces (P38), whose placement is also difficult to figure out, but I finally glued them on the bottom of the brace. I then glued the whole assembly onto the rear of the hull. The last two pieces to go on this assembly were P37, which are braces that run out towards the engine deck.

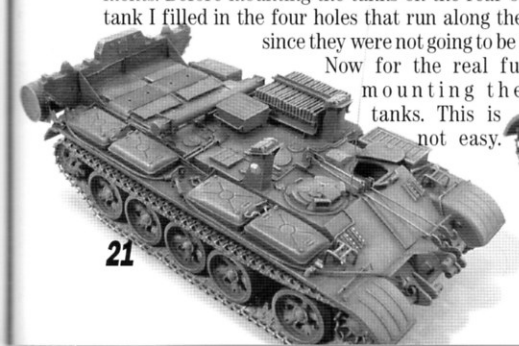
I now assembled the hydraulic assembly for the front of the vehicle. This is one complicated assembly and the photos of both the real one and the kit parts need to be studied very carefully. The parts R25 and 118 are difficult to position correctly. The kit parts will not fit correctly, according to the real one. They should be flat on part R36 but when you mount the bridge they will not work. They therefore need to be angled, as in the photographs. I also added solder wiring here and there to simulate the hydraulic tubing that runs around the arms. I left this assembly off till after test fitting the bridge and painting. There is one correction to the hull that is required to mount this assembly. Libor furnishes the correction piece, which is an 8x8x1 mm piece that goes on the hull front.

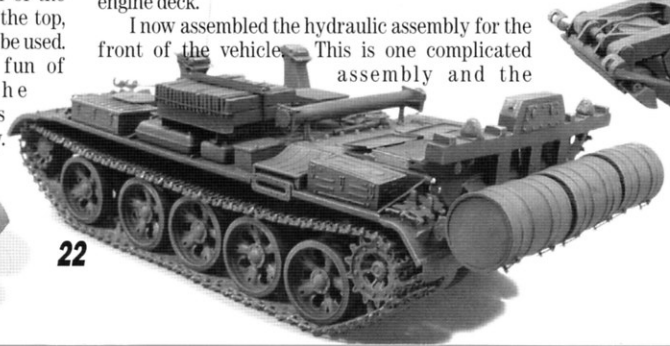
There were a number of detail items that were now added. This included spare track links on the rear fenders and the small marker lamps on the front and rear of the vehicle. Additionally, I mounted a log on the rear, underneath the fuel tanks, using the Eduard photo-etch parts.

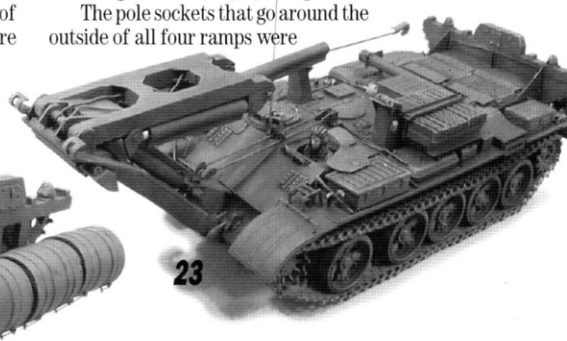
And now for the bridge

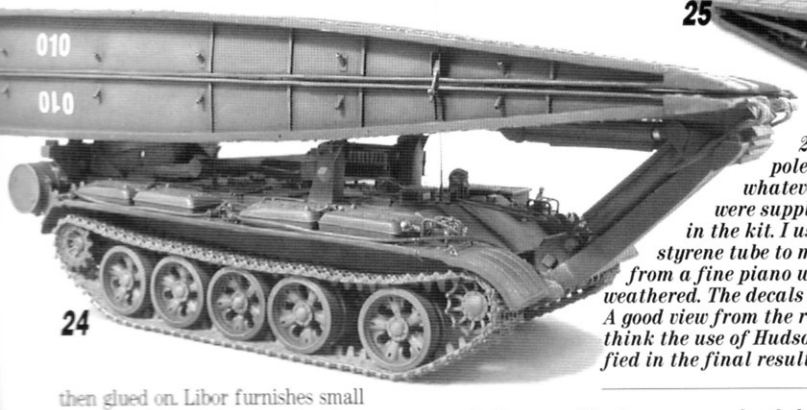
Of course, you first have to decide how you want to display the bridge. This is not a working model. I wanted to have my bridge in the mounted position on the tank chassis so I proceeded on that assumption. First I cut off the long pour block on each of the four bridge parts. I sanded these cuts on a large sheet of wet-n-dry sandpaper. I then cleaned up the supports for the insides (parts R 47, 48,49) and glued them on.

The pole sockets that go around the outside of all four ramps were









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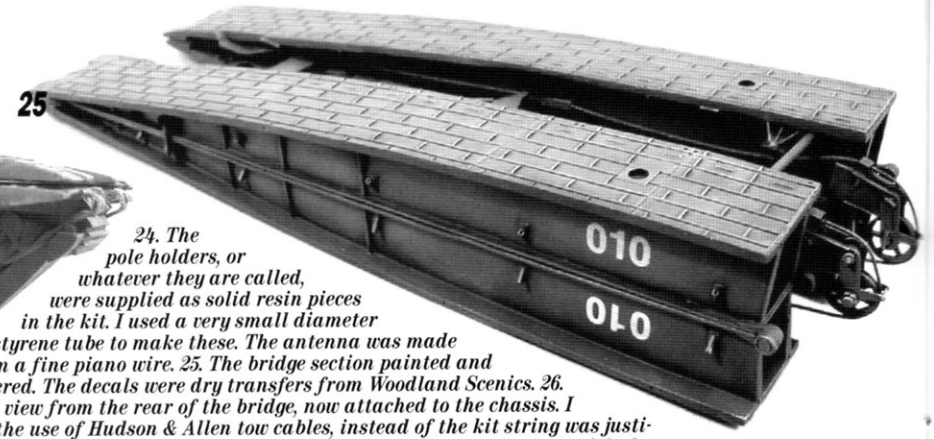

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24. The pole holders, or whatever they are called, were supplied as solid resin pieces in the kit. I used a very small diameter styrene tube to make these. The antenna was made from a fine piano wire. 25. The bridge section painted and weathered. The decals were dry transfers from Woodland Scenics. 26. A good view from the rear of the bridge, now attached to the chassis. I think the use of Hudson & Allen tow cables, instead of the kit string was justified in the final results. 27. The sag of the Fruilmodel tracks is about right here.

then glued on. Libor furnishes small pieces of solid resin for these but they are supposed to be hollow so I used some very small diameter styrene tubing cut at an angle. I then glued on the various pieces of braces and brackets, which go mostly on the inside of the ramps. The next step was to assemble the wheel/pulley assembly that goes on the center of each bridge section. There are a lot of parts for these and it took sometime to figure out the correct assembly. Check the real reference photos carefully since some of the parts appear to be backwards in the kit photographs.

I test fitted the bridge to the chassis. Not surprisingly, this required a little modifying. The two holes on the rear ramp are supposed to fit on the rear bumpers (R114). To allow the bridge to sit all the way down, the bumpers need to be cut down some. I also had to modify the two supporting arms on the front (R35 and R36) to allow the bridge to sit far enough down. Once I was happy that the bridge would fit when everything was painted I disassembled the main pieces.

Manning the base

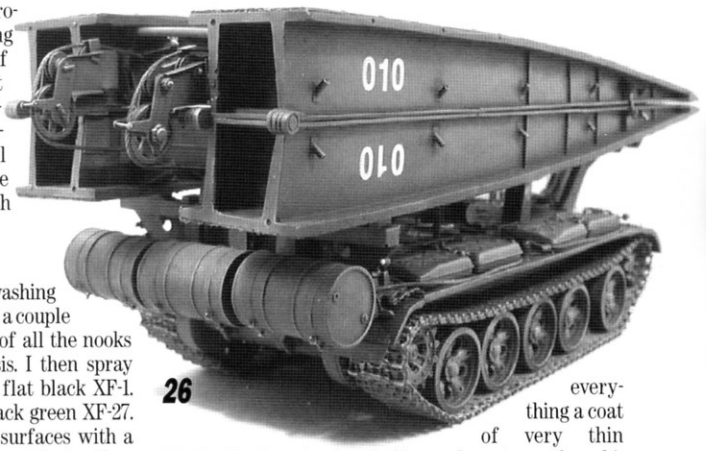
I wanted to add some figures for scale. The first figure I decided on was a driver, which I took from a modern Verlinden Russian tank figure. Unfortunately, I really did not like the face, so I replaced the head with a Hornet Russian tanker's head. The second figure is from the Tamiya Russian Tank Crew at Rest set. I took one of the casual figures holding his tanker's helmet in his hand. To paint, I first sprayed both figures with a base coat of a flesh mixture and then gave them a wash of burnt umber oil. I painted the faces and hands with oil paints and the clothing with Vallejo paints.

The base was made of sheet styrofoam. I cut the irregular shape out using a hot wire tool. I then made a mixture of tile grout and Celluclay and spread it over the base. I then sprinkled on various gravel sizes and kitty litter. I painted it with washes of burnt umber oil paint and sprayed it with Polly Scale mud and dry brushed everything with oil paints.

Let's paint

I began the painting process by washing everything in warm soapy water. It took a couple of days for everything to dry because of all the nooks and crannies in the bridge and chassis. I then spray painted the whole thing with Tamiya flat black XF-1. Next, I lightly sprayed with Tamiya black green XF-27. Last, I very lightly sprayed the upper surfaces with a 50/50 mix of Tamiya dark green XF-61 and dark yellow XF-60, which had been thinned about 60/40 thinner/paint. I painted some of the detail parts, including the handles of the tools, using Vallejo deck tan and the box behind the driver with Polly Scale signal red. I used Woodland Scenics dry transfer decals for the large number on the bridge (sheet number MG727), since I prefer dry transfer to water slide decals and the stencil set included a number of 0's which have center pieces I just did not want to deal with. I gave the whole vehicle a coat of a clear semi-gloss to protect the decals and give the vehicle a slight sheen.

I now began the weathering process. I first gave



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everything a coat of very thin black oil paint mixed with thinner. I went over the vehicle and gave everything a pin wash by first coating a small area with thinner, then using a small brush, dropped a mixture of 50/50 black/burnt umber oil wash onto key areas like hatch lines and bolt heads to bring them out better. I dry brushed the model with a mixture of titanium white, sap green, and burnt umber oil paint. I then lightly sprayed the lower part of the chassis and suspension with thinned Polly Scale dirt. Last, I dry brushed the bridge ramps and other key areas with a mixture of Rub-n-Buff silver and burnt umber oil paint.

The Friulmodel tracks were first soaked in A-West's Blacken-It for about 15 minutes. I then gave them a wash of Polly Scale rust. Finally, I gave the tracks a wash of 50/50 black/burnt umber oil. Once they were dry I buffed them with a green pan cleaner pad. This brought out the natural metal color of the tracks. I added the tracks after all the painting and dry brushing was complete.

For the experienced only

First and most important, this kit is definitely for advanced modelers. I probably spent as much time trying to figure out where parts went as assembling it. If I had to do it again, I would not waste my time or money on the Trumpeter T-55 kit. The only problem is the ESCI T-55 kit is not all that common any more. I really like the Panzer Shop resin pieces since there is minimum cleanup with them. Libor does a great job of casting and there were only a few small holes, which were not difficult to fill. The weakest part of the kit was the instructions. Libor is aware of this short fall and I believe trying to find a solution. To his credit, I e-mailed him when I ran into an area that the parts were not clearly illustrated. He responded within a few days by e-mailing me a full set of photos with the parts clearly labeled. Additionally, he posted these new photos on his website so other modelers could download them. Overall, I really am happy with the results of this kit and am looking forward to some of his other new kits he is planning to release later this year, like the 152mm ShKH vz.77 DANA.

—Jim Hensley

MMiR RECCE

MT-55A Combo Kit, Early Version "Hi Tech," Panzer Shop, $133.00 This kit includes: the conversion kit plus the Trumpeter T-55, Friulmodel T-55 tracks (ATL-01) and Model Point antenna pod.

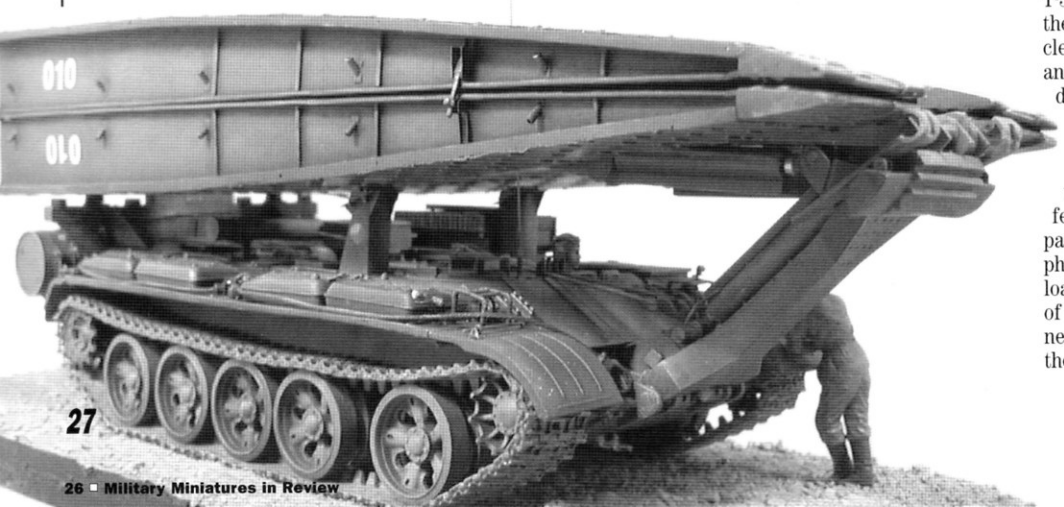
ESCI T-55, kit #5044, Suggested retail price $14.50.

Chesapeake Model Designs T-55 roadwheels, Kit number CMD 21. Suggested retail price $20.00.

References

Soviet Tanks and Combat Vehicles 1946 to the Present, Zaloga, Steven. And Loop, James W., Arms and Armour Press, Great Britain 1987. ISBN 0-85368-743-9

Panzer Shop website: **http://www.panzershop.iol.cz/shopaj.htm**



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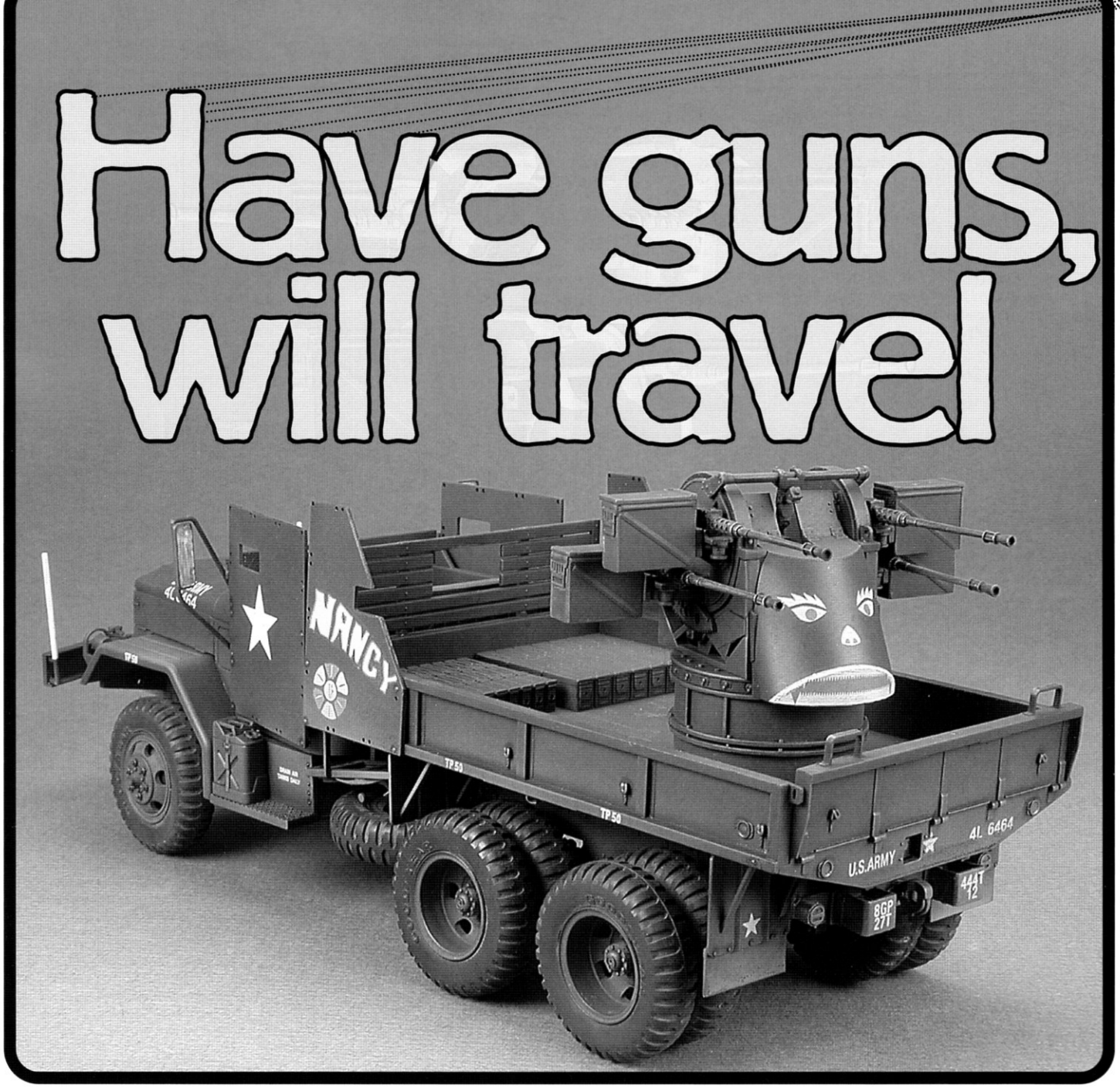
Have guns, will travel



During the Vietnam conflict, the problem of convoy protection was a prickly one. With many rural areas of the country controlled by the enemy, it was always a high-risk proposition to move a large number of vehicles from one point to another. The French learned this lesson the hard way, experiencing some catastrophic ambushes during their time fighting the Viet Minh.

The U.S. didn't initially pick up on this problem when they entered the conflict, but thanks to some good 'ol Yankee ingenuity, the gun truck was soon born. One thing the U.S. Army had going for it was firepower. There were a wide variety of weapons available to the troops and before long many of them found their way onto the backs of the sturdy army cargo trucks of the time. One such weapon was the deadly M45 quad-fifty mount of WW2 vintage. This gun array was mounted in the capable bed of an M35A1 two and half-ton truck, which also was fitted with armored plates around the cab. The M45 was originally designed as an anti-aircraft mount and this formidable weapon had four big-ass .50 cal guns in an electrically controlled mount. The weapons could be fired simultaneously and this meant 1,600 to 2,000 rounds going down range in a big hurry—OUCH! Although obsolete against modern jet aircraft, it was devastating against ground targets. The M45's operator could spin the mount, raise and lower the guns, and fire them, all from a central pistol grip control. He was tucked between the gun and behind a curved armored plate that covered the front of the mount. The turntable could rotate 360 degrees and a full rotation only took about six seconds. The rig was battery powered and the batteries were kept charged up by a small gas generator mounted behind the gunner.

Some fairly awesome gun truck modifications were made during the Vietnam War and these included both 2.5 and 5-ton trucks. Perhaps the most bizarre to spring to mind was the 5-ton with an entire ACAV M113 in the bed!

Most, if not all of these trucks were decorated with elaborate (for a combat vehicle) markings and this makes them irresistible modeling subjects.

Plastic truckin'

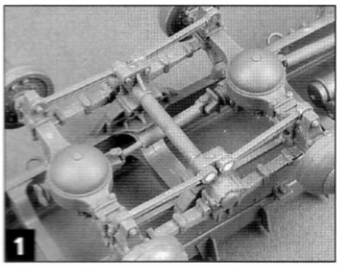
It seemed a natural for AFV Club to take its terrific M35 kit and turn it into a gun truck. The gun truck chosen as the subject of the kit is a vehicle named "Nancy" from the 444th Transportation Co. of the 27th Transportation Battalion, 8th Motor Transport Group.

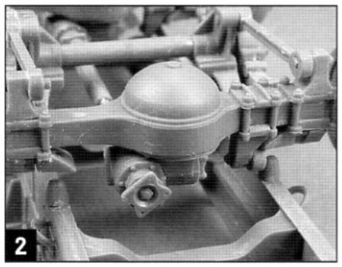
The kit is almost identical to their earlier release, with the exception of the M45 gun and supplemental armor, and of course, a new set of waterslide decals.

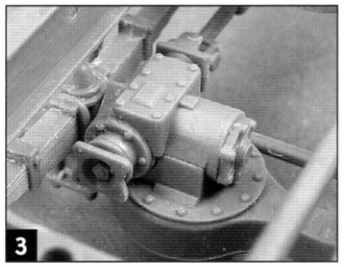
The AFV M35 is a terrific kit and out of the box it accurately represents a M35A1 more common to the army of Desert Storm. However, many of the differences are not noticeable and fortunately, the truck in question was based on an M35A1 and not the much earlier M35. I built the kit straight from the box with no alterations.

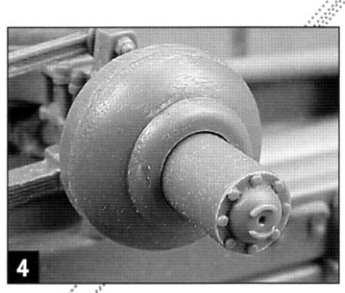
The frame and stuff

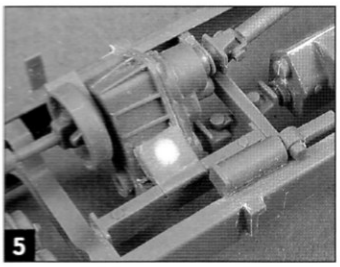
Unlike other truck kits, the AFV Club kit has a multi-part frame, as opposed to a large, single piece. This requires some careful construction, so mistakes don't creep into the model at a later date.

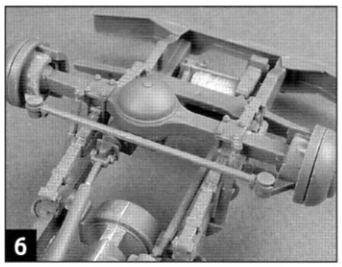


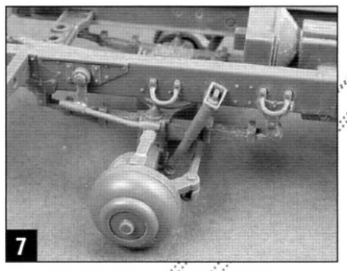


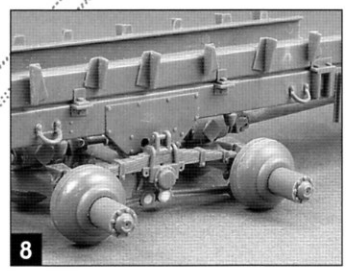


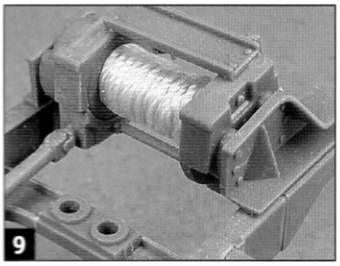


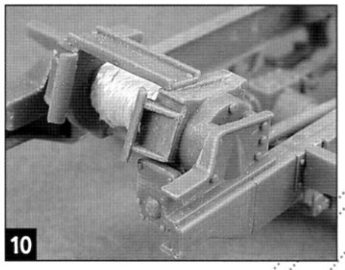


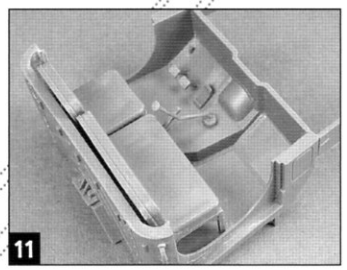


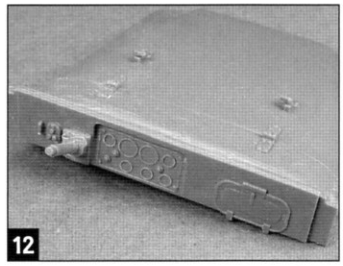


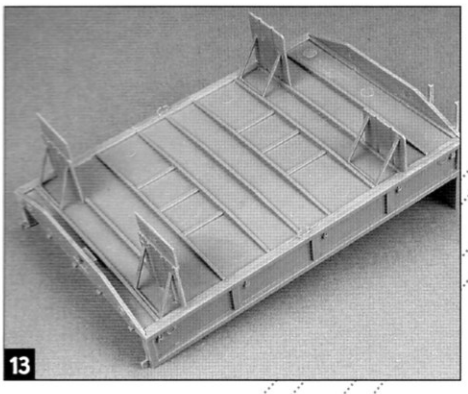


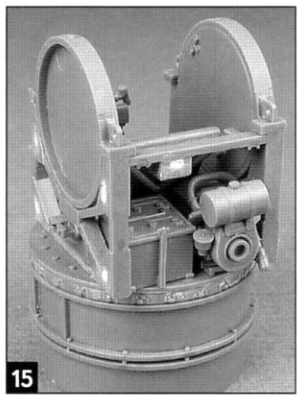


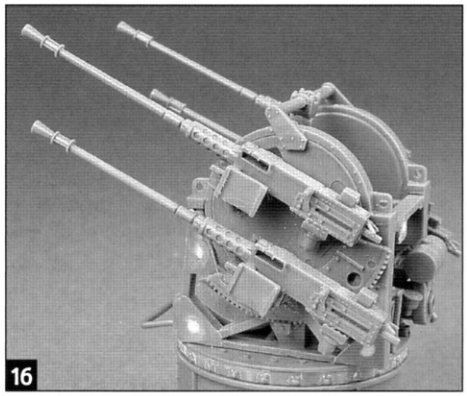












There's a ton (or 2.5, actually) of styrene fun on this chassis. Let's take a look. 1. These are the two rear axles in place on the frame. 2, 3. Detail shots of the rear trans axle from above and below, with the PTO flange showing. Sexy! 4. This is how I left the wheels for painting. Test fit carefully to avoid tears with the final assembly. 5. The transfer case needed a little filling. No big deal. 6. The front axle remains workable. 7. The front steering arm with its attendant shock mount. 8. A look at the rear of the frame with the rear suspension in place. 9, 10. The front winch prior to the addition of the bumper. Note the guide plates to either side of the opening. 11. The cab prior to adding the armored plates. 12. The dash—think Eduard here. 13. Underneath the bed. Watch out for monsters! 14, 15. Front and rear view of the gun mount. Check out the texture on the seat and the gorgeous little battery and generator set-up. 16. Here, the .50 cals and the sight arm have been installed. These were left

The axles and drive train are a wonder of styrene detail. There are a few things to look out for here. Make sure to put parts A35, A34 (the leaf spring mounts) on the proper side of the axles.

When placing the axles into the frame, put one leaf spring in to give the assembly some strength. This will also help in aligning the various parts when joining the two sides of the frame. To add all the drive train components to the frame, my method was to put the transfer case together, place the case plus the drive shaft in, put the frame together and then add the last axle.

All of the various smaller parts were added to the chassis last, to prevent them from popping off during construction. The curved metal handles along the outside edge of the frame are a late feature. Earlier Vietnam trucks had simpler, staple-shaped handles.

The rear hubs are designed so that the center shafts pass all the way through the wheels. I attached the hubs to the axle with the idea that I would add the wheels after painting (which I did). However, careful test fitting is necessary here. After the truck was painted the wheels did not fit over the hubs and there were a few anxious moments.

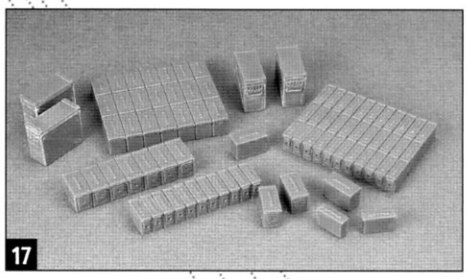
If you do add the hubs first, make sure they have a chance to completely dry before handling the model. Any shift in position will cause the model to sit crooked after completion.

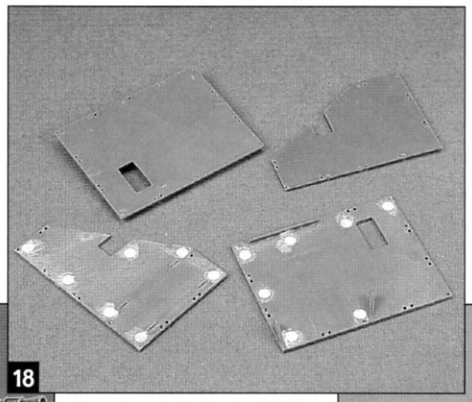
AFV Club provides real rubber tires all around and each sport a cool raised Goodyear logo. They all have a center seam and this will have to be attacked with a coarse file. You could also try chucking the wheel in your Dremel. This method works a bit better on the AFV Club tires, as they are firmer than those found in the Tamiya kits. I've always liked rubber tires, primarily because they can be easily left off the wheels until after both painting and weathering. More on this later.

There is no engine in this kit, which is OK. There is a module underneath the cab and front-end assembly. You also get a small portion of the transmission, parts A47 and A46. These get stuck together and then mated with a short shaft to the transfer case. This completes the basic frame construction.

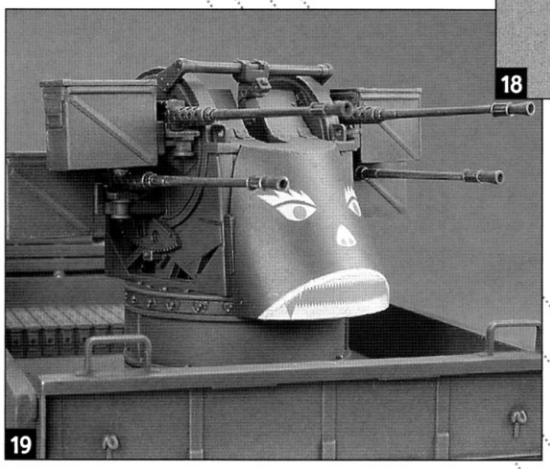
The winch is a completely separate sub-assembly. In theory, it could be left off, although you would need to modify the front bumper accordingly (the real Nancy has a winch). All the parts fit great and the finished assembly was stuck on.

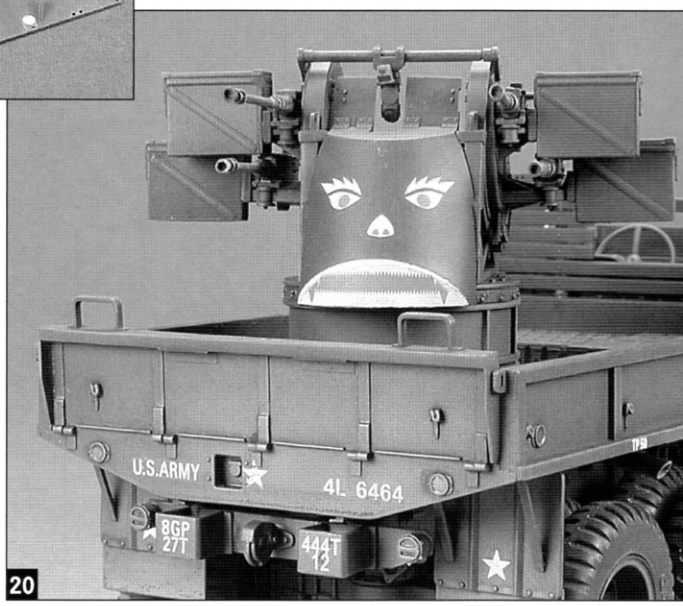
There are two distance markers for the front bumper, parts M9, that are unique to our gun truck. These are very delicate, so they were added last.





unglued for painting. 17. A wide variety of ammo cans are included in the kit, including already grouped sets. This saves quite a bit of time. 18. The square armored plates are for the cab and the slanted ones go on the bed. There were a few sink-holes to deal with. 19. The finished gun array looks super sweet. The ammo boxes are mounted too high. A spacer is needed to bring them out on the top. 20. The decal sheet included a full group of truck markings including all the bumper markings seen here. You talkin' to me? 21. The gun in the bed with all the ammo cans. 22. Some of the decals had a large carrier film, especially the Nancy decal.





struction, but highlights part P8, the .50 cal base plate. All of the gun parts are small, so care should be exercised while putting the assembly together.

Interestingly, you must cut off the ends of the barrels to add the flash suppressors. This was the major difference between the more modern version and the WW2 one. I drilled the ends out after the glue had dried, then added the butterfly triggers.

With parts P8 & P7 (the gun's base plates) on both guns, I test fit the guns to make sure they were level. The 'Nam version used large square 40mm ammo boxes, rather than the narrow steel ones of the WW2 version. These were each constructed and set aside for painting. I assembled both side plates with all the mounts and gun, then mated them with the sighting arms to create a subassembly.

There is a slight problem with the mounts for these large ammo boxes. In order for the upper boxes to clear the lower set of .50 cals, the boxes must be spaced out from the gun considerably. I was not able to determine how this modification was made on the real gun, so I just mounted the boxes high. Just so you know, this is not correct.

The turntable mount for the gun is highly detailed and the little gas generator is a thing to behold. The twin batteries even have the proper clamp arm.

One somewhat strange thing was the rivet detail for the bottom of the turntable base. It is composed of two straight strips of plastic that get wrapped around the base of the gun. I used a clamp and glued a little down at a time. No biggie.

I left off the front armored shield for painting.

One of the last things to be built was the ammo box group for the bed of the truck. These are large single pieces and are meant to represent boxes stacked in neat rows. A few single parts are also supplied.

Insert lame "call me a cab" line here

The cab construction presented no problems. The fit of all the parts was amazing. For the gun truck version, the windshield and side door glass are eliminated, somewhat streamlining construction. The windshield is replaced with a short section of armored plate. Part B37, the front grill, gets a small section cut away to help back date the truck.

If you are so inclined, Eduard makes a smashing dashboard set for this truck and without the large windshield in the way it's extra noticeable.

The whole cab and engine compartment assembly was plopped on the frame with no problem. I did thin down the front end of the side step assembly (sub assembly I) prior to gluing the subassembly.

The doors will have to be added, along with their armor plates, prior to painting. I thought this might present a problem, but it didn't. The specially modified mirrors were added last. There are no location holes and my references did not really help. They were subsequently just stuck on the front of the cab, according to the instructions.

I thought I had lost the right hand mirror, part F4, then later discovered it on the clear parts sprue! I'm not sure what the logic was here, but the part was as good as any other.

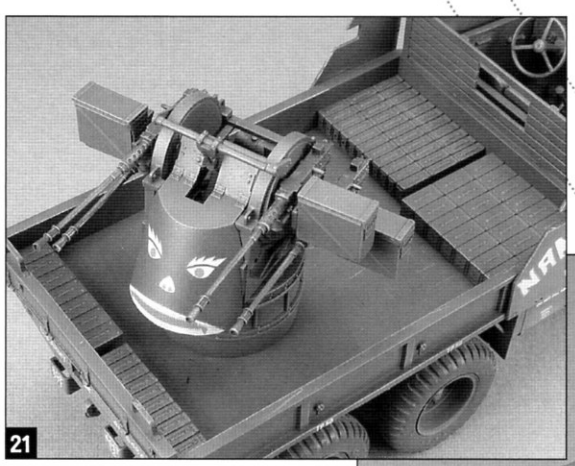
Put me to bed

The construction of the cargo bed was a dream. All of the parts fit together beautifully. The wood side rails typically seen on the 2.5-ton truck get trimmed away, leaving the short metal sides.

There are two angled armor plates to add to the forward ends of the sidewalls. These were added last, along with the assembled tool rack.

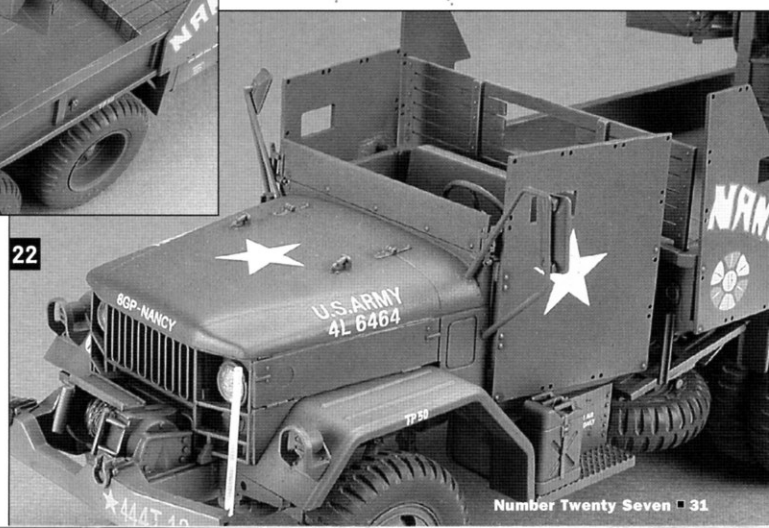
OK, now the gun

The Club did an awesome job on the gun array. Just make sure to follow the instructions. There was an addendum sheet added to our kit, to replace step 24. I can't really see why, as it shows the same con-



And paint I did

To get a dark, 'Nam-like color for my truck I mixed Tamiya OD (XF-62) and German Grey (XF-63) together, about 3 parts to 1. This gave the OD a darker and somewhat bluer hue. To further darken the scheme, this was sprayed over a base coat of Tamiya flat black. When this was dry, the whole truck was given several light coats of Tamiya Clear



to gloss it for the decals.

Only the one choice for markings is provided and it's a cool one. The large red and yellow name is supplied for each side, as is a groovy flower design. The sheet also provides a full suite of standard truck markings for the front and rear bumper, the fuel tanks and other areas. Nothing is provided for the dashboard and that would have been a nice touch.

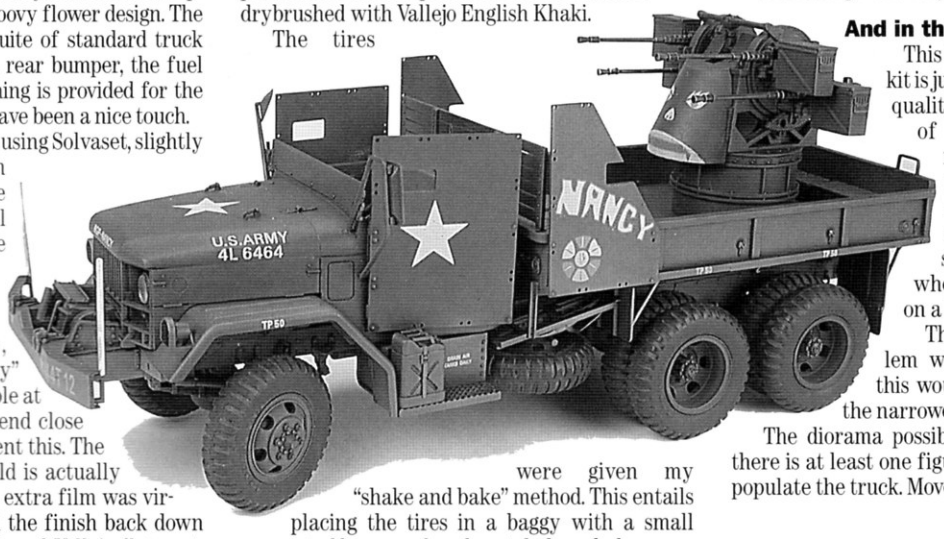
The decals were applied using Solvaset, slightly cut with water. This is tough stuff and some decals can be damaged with it at full strength. These decals are pretty strong and really took the punishment well. The decal film is all but invisible everywhere, except the large "Nancy" decals. These were still visible at some angles and I recommend close trimming the name to prevent this. The large face for the gun shield is actually four separate decals, so the extra film was virtually non-existent. To dull the finish back down after the decals were set, I used Vallejo flat coat. Depending on how many thin coats are added, the finish can still have a slight sheen to it.

Gun trucks were well cared for by their crews, but they still got dirty. I added very light oversprays of Tamiya Flat Earth to the entire vehicle, with heavier applications to the undercarriage and the front and rear bumpers.

The gun was painted with the same OD mixture as the rest of the gun, but the .50 cals were painted black, then drybrushed with Vallejo Gun Metal.

The whole model was given an oil wash with Testor Model Master airbrush thinner and Winsor & Newton oil paint. While the surface was still damp, rivets and other small details were given a pin wash of thicker paint. The truck was then drybrushed with Vallejo English Khaki.

The tires were given my "shake and bake" method. This entails placing the tires in a baggy with a small amount of brown colored pastel, then shake away. Excess color is then rubbed off with my bare fingers. This puts all the color into the treads of the tires and gives a very realistic look.



And in the end...

This is one wild ride. The basic kit is just this side of terrific, with quality of tooling rivaling that of Tamiya. The M45 gun mount was also a nice kit and I'm hoping that we'll see it as a separate model soon. There were two versions, one on a small two-wheeled trailer and another on a larger four-wheeled one.

There was that slight problem with the ammo boxes, but this would not be a problem with the narrower WW2 boxes.

The diorama possibilities are solid here and there is at least one figure set from Hobby Fan to populate the truck. Move 'em out!

—Ken Dugan

MMiR RECCE

AFV Club M35A1 Quad-.50 Gun Truck. Kit number 35034. Kit graciously provided by the manufacturer. Suggested retail price $39.98.

References

Armor in Vietnam, A Pictorial History by Jim Mesko, Squadron/Signal Publications, 1982. ISBN 0-89747-126-1. A small, but nice selection of gun truck photos and a few great looking color plates.

Gun Trucks by Timothy J. Kutta, Squadron/Signal Publications, 1996. ISBN 0-89747-359-0. A much broader treatment of the subject. Chock full of photos and color plates. If this is your area, you gotta have one.

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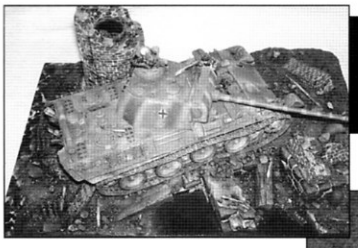

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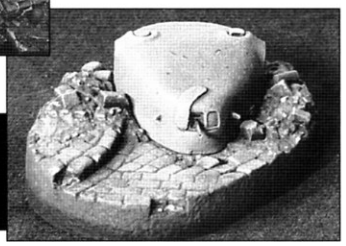

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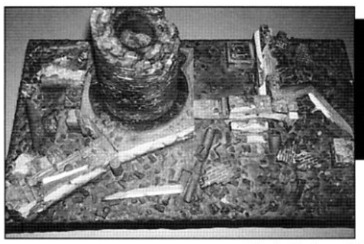

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The Big, The Bad & The Fugly

The Soviet IS-III scared the post-World War II United States armored tacticians. Its heavy armor, powerful 122mm gun, and presence in the hands of the new bad guys made it a formidable bully on the block. It seemed that again, as in 1940, US tank design was woefully inadequate to counter the new threat.

So, in 1948 a 70 ton tank class was initiated that would use the 120mm main gun. The end result was the M43 prototype, though the weight was reduced to around 60 tons. The design featured an elliptical hull, much like that of the M-26 Pershing and M-47 Patton tanks of the day. It had seven road wheels and six return rollers per side to drive the 28-inch wide tracks. The turret housed the 120mm main gun, with two coaxial .30 caliber machine guns in the mantlet, and a .50 caliber M2 machine gun on the commander's cupola. Armor thickness at the hull front was 5 inches sloped at 60 degrees. The turret protection was 10 inches at the mantlet and 2 inches at a 40-degree slope on the sides. The crew compliment was five, and it was powered by a gasoline engine.

The Korean War necessitated an urgent production authorization of 300 T43's for both the United States Army and Marine Corps. The design, however, would not be finished before the end of the conflict.

Major modifications finally secured approval by the US Army in 1957, and the official designation became the M103A1. Now the design featured a new turret control, secondary gunner's sighting device in place of one of the coaxial MG's, and a stereoscopic rangefinder. The cupola was modified with less automation, and the muzzle blast deflector was dropped. Sadly, by the time all this occurred, the US Army basically said, 'that's nice, but we're not interested'.

The Marine Corps, however, promptly authorized a modernization of their existing M103 tanks to bring them up to M103A1 standards. They took delivery of the updated ones during 1958-59.

When the diesel engine M60 appeared in 1962, the USMC authorized these engines for installation in their M103A1's. This version became the M103A2. They were commonly fitted with a Xenon searchlight on the mantlet.

The US Army briefly deployed the M103 version to Europe in 1959, originally with the 899th Tank Battalion, later to become the 2nd Heavy Battalion, 33rd Armor.

The US Marine Corps used them as their standard operating heavy tank from 1958-1972, until all were replaced with the M60. They were issued to the third companies of 1st and 2nd Tank Battalions.

The Commander Series kit

Right now, the only kit option for building this tank is from Commander Series Models. It comes tightly packaged in a cardboard box, and is designed as a complete kit. The instructions are three single sided pages, and consist of parts list and exploded view drawings for assembly. A fourth page includes a three-view scale drawing. There is no markings or vehicle history.

There's no white metal or styrene to deal with here, just lots of resin. The massive solid hull and turret castings are particularly noticeable. If scale weight is desired, there's plenty of it here. The fender supports, lift lugs, and bustle rack stanchions depart from resin and are reproduced in photo etch brass.

The tracks supplied are styrene separate link M48/M60 tracks made by AFV Club. Definitely recommended for any model of this vehicle's lineage, they assemble with little effort, require no glue, and remain flexible for installation.

The general shape of things seems accurate and offers realistic cast armor surface texture and weld bead detail. There are some omissions in this kit; namely the searchlight and the gun mantlet dust boot

Since there's so much resin inside this kit, the quality of the castings becomes very important to the success of the project. A fair description is that it's inconsistent.

Some parts of the kit have delicate detail and sharp molding, especially the rear engine access hatches. The main parts--the hull and turret--are not perfect, but for the most part make a passing grade. What really doesn't are the suspension components and the smaller details. The road wheels have excellent bolt detail on their face, but heavy casting seams on the rubber tires. The suspension arms offer good detail, but are marred by too much flash or casting gates. The cylindrical shock absorbers have rough mold parting lines their entire length. The main gun tube scores points with its brass rod straightener, but has mold shift seams along its entire length.

Commander Series thoughtfully includes extra pieces for many items. They also offer a generous "no questions asked" parts replacement policy. Replacement parts were requested before starting this project, but were not always an improvement.

Searching for help, Tamiya's M48A3 kit offered many superior parts than the Commander Series ones; but two kits would be needed to supply all the suspension components. Instead of getting the second kit, the extra parts were scrounged from friends.

Another important item needed before construction could begin was a good reference source. *Firepower*, a book by Richard P. Hunnicutt fits the bill perfectly. There are scale drawings, technical manual excerpts, and photographs. Other resources are listed at the end of this article.

Turret

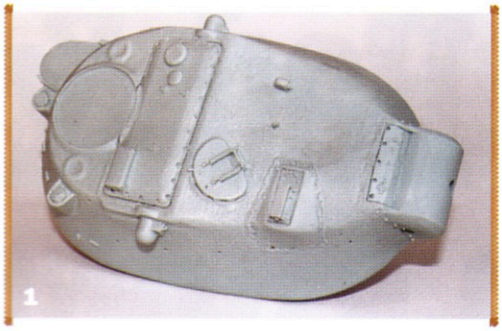
The turret would receive most of the detailing and correction, so construction began here first. The turret casting is heavy enough to justify an attempt to remove some of its weight. Drilling out the inside of the turret to remove as much resin as possible helped reduce some of its weight.

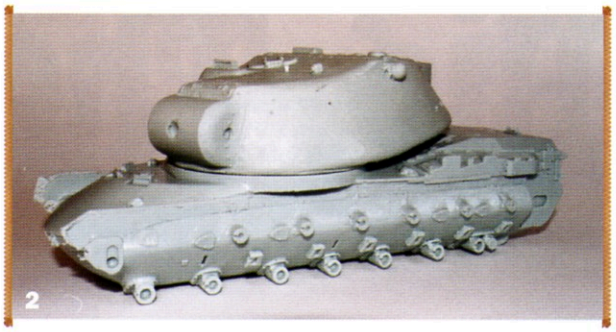
The turret features nice cast armor texture and weld detail. The loader's hatch is molded to the surface and had some casting flaws. It was sanded away and a new one made from styrene sheet. Details like the handle, springs, and bullet splash were added with various wire shapes.

The antenna and ventilator armored housings needed some repair to their upper surfaces due to casting flaws or shipping damage. The ventilation dome, a separate resin piece, was used as is, except for some added screw detail.

Tiny screws were also added around the large, rectangular rangefinder plate. New triangular lift rings made from wire were added there also.

The stereoscopic rangefinder blisters molded with the turret sides lacked detail, so were replaced with new ones made from pieces of tubing, scrap plastic,



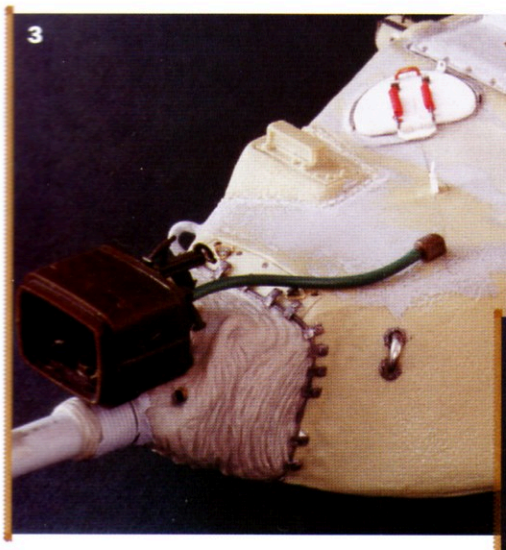


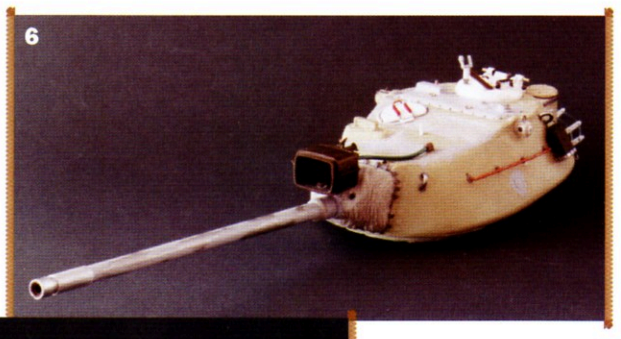
The turret received four lifting rings and a large stowage bar on each side using suitably sized wire. Weld marks were added at their attachment points. An Italeri gas can was added to each side with a new lead foil holder and strap.

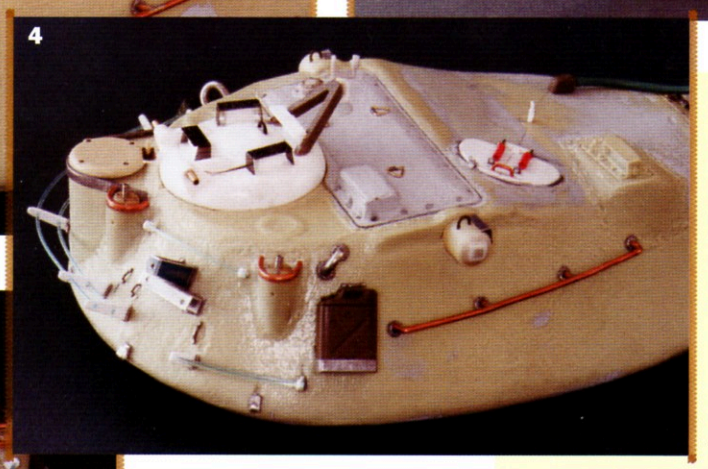
More wire and lead foil was used to make strap tie downs and tow cable supports. The kit's resin searchlight stowage bracket was replaced with a metal sheet one. The loader's hatch stay was a donor from the parts box.

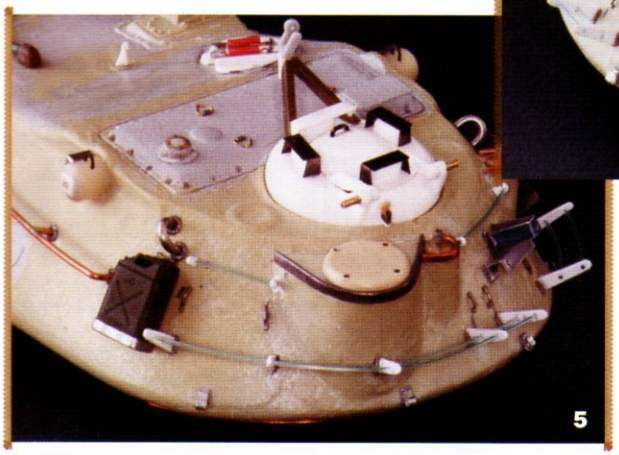
One prominent feature on the real tank is the General Steel Company's foundry casting mark on the side of the turret. Using a piece of aluminum foil as a surface, the mark was drawn out backwards. It was then flipped over and the raised design cut out and glued down.

The most delicate and scary part of the turret, the bustle rack, was added last. The kit includes photo etch brass stanchions. The instructions recommend threading wire (not included) through them. This method can









1. Note the details are cast with the turret surface. The cast armor look is done well, but the details are rough. 2. No sub-assembly here, just big blocks of resin. Damage can be seen on the front fenders, and bubble holes mar the suspension mounts. 3 & 4. Here are the new items either added or replaced to the turret. The oval loader's hatch was replaced with one made from styrene and detailed with wire. On the rectangular rangefinder access panel, wire lift rings were added, and new rangefinder blisters are at the edge of the roofline. The commander's cupola replacement is from a Chesapeake Model Design's M48 conversion kit. The MG mount was pieced together with spare kit parts and styrene. A wire stowage bar is next to a Tamiya gas can with lead foil strap and holder. A new bustle rack made of styrene stanchions and fishing monofilament can also be seen. The rectangular bracket in between the antenna pots is the searchlight stowage bracket. The mantlet dust boot was made by using Magic Sculp putty textured with a round toothpick. The attachment clips are lead foil. The searchlight is from the Tamiya M48A3, with a vinyl power conduit. 5. Another angle showing well the bustle rack, tie-downs, and tow cable supports. Note also the lead wire lift rings and the loader's hatch stop. 6. A perspective of the LONG 120mm main gun. It was made by using an old fiberglass fishing rod and capped off with metal tubing at the muzzle.

and putty. A wire lift ring and lead foil glare reflector was also added.

A major replacement on the turret was the commander's cupola. The kit supplies a single cast piece that did not have good definition. A replacement was found in a Chesapeake Model Design's M48 gasoline engine conversion kit. Its cupola comes with separate periscopes, hatch, photo-etch periscope guards, and internal detail. The Commander Series resin M2 .50 caliber machine gun mount was replaced with styrene scraps and parts from a Tamiya Jeep tow bar assembly. The Commander Series kit did not include the commander's machine gun, so a spare DML one was used.

The main gun barrel was also replaced. There were mold seam lines down each side, and it also seemed a little short compared to scale drawings in the "Firepower" reference.

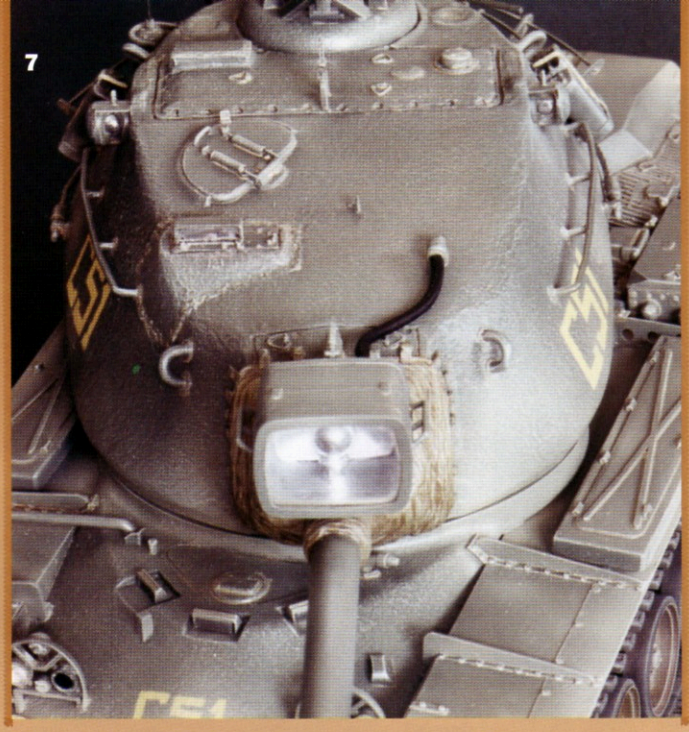
Remembering an article that described how a modeler used a fishing rod to make an M26 Super Pershing barrel, a search in the attic found a suitable donor. The advantages are that it is both tapered and hollow. In addition, an aluminum-tubing segment was glued to the end to depict the evacuator.

The cast resin mantlet was fine except that the lift rings were cast with the piece and did not de-mold properly. Replacements were added with wire. The gun barrel was glued to the mantlet and then the assembly attached firmly to its position at the front of the turret. Two brass tube segments were installed to replicate the coaxial MG and gun sight aperture sleeves.

Nearly all references indicate a canvas dust boot was attached to the gun mantlet. Replicating one is a perfect job for "Magic Sculp" putty. It comes as two parts that are kneaded together to form a clay-like consistency. It can then be sculpted as you like and dries rock hard in 12-24 hours.

The dust boot began by first gluing a length of wire to the turret to mark the boundaries of the canvas cover. Then Magic Sculp was applied in a thin layer and shaped with a small spatula. Creases and folds were added with a tapered, round toothpick. The part of the dust cover that extends over the barrel tube accordion-shaped to allow for recoil. Several wire rings were glued there and puttied over to achieve the effect. The clips that keep the canvas cover attached were replicated in lead foil with styrene rod studs.

A Xenon searchlight mounted to the mantlet was standard on these tanks, but one is not provided in the kit. One was used from the Tamiya M48A3 kit, but the more accurate mounting hardware came from an Academy M60A1 kit. It was mounted to the mantlet on styrene rod segments. The large electric conduit was made from vinyl tubing, and attached to the turret roof using the Tamiya M48A3 socket.



be workable, but the small surface area for glue might not be enough to take the flexing of the rigid assembly. A fairly easy alternative was to cut out styrene stanchions and use heavy-test fishing line monofilament. My former hobby really came in handy for this project! The stanchions were super glued to the turret rear, and the monofilament inserted in the pre-drilled holes. The end result looks great, and has some flexibility to prevent the super glue joints from snapping apart. Weld bead detail was added to the stanchion supports when everything had set.

The commander's vane sight, not included in the kit, was made from scrap metal and punched bolt heads. It was added right before painting. The whole turret was textured with Gunze Sangyo Mr. Surfacer 500 to give it a consistent cast steel texture.

Hull

The one-piece molding of the hull is not without its flaws, but is about as well as can be expected for something this large. There were a few small bubble holes here and there, but the engine deck and hull rear has lots of nice detail. There are a lot of louvered doors, handles, and bolt detail in these areas, and it's amazing it turned out so well. The molded-in cast texture continues here and is effectively reproduced.

At the front, things were not as good, with some large bubble holes and over pour marks to repair and smooth over. A delicate fender support was broken slightly in shipment, and damaged again during assembly. The choice of photo-etch and resin hull lifting rings is yours to make, but neither was better than the Tamiya M48A3 ones.

Just as the turret, the belly was hollowed out with a power drill to lighten its load a bit. A large styrene sheet was glued over the holes to hide the surgery.

At the hull front, Tamiya M48A3 towing shackles, headlight clusters, drivers' periscopes, and external fire extinguisher control were attached. The bilge pump drain was added by bending brass rod. A scrap styrene hatch stop was also added. New hull lift rings made of styrene were also added.

In the rear, some new punched bolt heads replaced poorly cast ones, and new hinges were made for the engine access doors. The Tamiya M48A3 supplied the central towing pintle.

Suspension & tracks

The casting quality of the suspension components did not rate that well. The Tamiya M48A3 suspension components were easier to utilize. The road wheels, return rollers, and drive sprockets were assembled without any fuss.

The Tamiya road wheel arms were not without a little surgery before mounting to the hull. A styrene tubing spacer was needed to bridge the gap between the hull attachment point and the kit part. Also, a segment of brass rod inserted into the arm and the hull side helped strengthen the joint.

The foremost and rearmost arms were glued first to establish a level point for the other arms. Slow-setting epoxy and a spacer under the belly achieved a level sit. Super glue was also used for added strength. Once those four were solid, the others could be attached and tweaked as necessary to be as straight as possible. Once everything had cured, any gaps were puttied and smoothed.

The drive sprocket was threaded onto a brass rod and the hull drilled with a corresponding hole. The same was done for the return rollers.

The AFV Club tracks are supplied as separate sprue trees, and there are more included with the kit than what comes standard in the set on its own. Many links had broken guide teeth or other damage from shipping.

The links have two pins on each side that engage the end connectors that are molded on the outside of the sprue tree. The links are press fit together, and then locked in place by sliding the pins into the end connectors. When snipped from the sprue, they remain assembled and workable. Minor cleanup is required—there are two ejector pin marks on the inside of each link. An efficient way to deal with them is to assemble the track in six to eight link segments, then swipe the surface with a coarse, flat, sanding stick. The total number of links used per side was 82 on the right, 83 on the left.

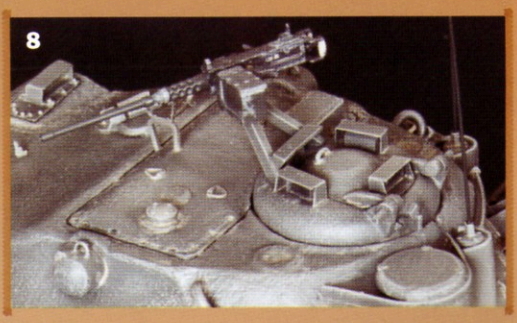
Putting it all together

The tracks were painted and weathered before installing by airbrushing them earth brown, followed by a dry brushing of dark gray on the rubber cleats. A near disaster occurred when a mineral spirit/artist oil wash was applied. The track block pins became soft and started breaking. After waiting a few hours for them to completely dry, some were coaxed back to their flexible state, but many had to be replaced.

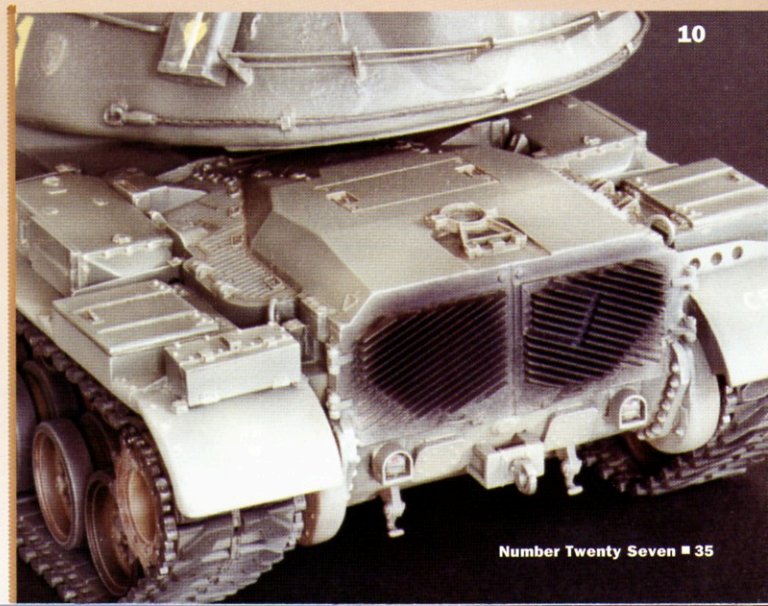
Next, the lower hull and suspension was painted and weathered. The road wheels were sprayed Dark Gray for the rubber, and their centers sprayed Gunze Sangyo Dark Earth. A Van Dyke artist oil/mineral spirit mixture was used to wash around details, followed by dry brushing a light tan color for contrast.

It's scary mounting tracks on a model with no room for suspension movement. The hope is that everything will work out by adjusting the links either one less or one more for proper fit. These tracks should be tight with no noticeable slack or sag. Fortunately, it worked out fine, although one side was a little tight trying to attach the last end connector. Clear matte finish was flowed over the tracks as a weak adhesive to keep them straight.

Now the resin kit fenders were cleaned up and attached with super glue to the hull sides. Lots of dry



7. All periscope glass on the model was simulated with pieces of Mylar film. MV Products clear lenses were used in the headlights. The fender supports are sheet styrene kit replacements. 8. The M2 .50 cal machine gun is a DML item; its mount fashioned from spare parts and styrene sheet. 9. Using Gunze Sangyo "Mr. Surfacer" enhanced the kit's cast armor texture. The large number was achieved by spraying through a custom cut piece of lead foil. Next to it, the General Steel "G" foundry casting mark was made with embossed lead foil. A gentle dusting of Dark Earth was airbrushed onto the fenders. 10. The model's louvered engine hatches and deck detail were cast very well. At rearmost on the left fender is the field phone box. In front of it is the Tamiya air cleaner in between the two resin stowage boxes. The number on the right fender is from Archer Fine Transfers.



Left: on the glacis, Tamiya M48A3 headlight clusters and towing shackles were used. The tube leading off the left of the photo is the driver's compartment heater exhaust. The periscopes were replacements from the Tamiya M48A3.

fitting and trimming was necessary for proper fit. The middle and rear positioned fender supports were the only parts used from the kit's photo etch fret. The molded-on supports were scraped off the fenders and replaced with the brass ones. Their attachment points on the hull sides were formed from metal sheet and detailed with punched rivets.

The front fender supports were a different design than the rear. The resin parts were scrapped in favor of sheet styrene ones made to fit. They were detailed like the others. A fillet of metal sheet was used to repair damage to the front fender/hull area.

The rearmost fenders fit well after a little adjustment, and were attached after some dry fitting.

The two Commander Series toolboxes were cleaned up and mounted centrally on both fenders. The Commander Series air cleaners were not used in lieu of the better Tamiya ones. The Commander Series field phone was actually superior to the Tamiya one, and was mounted to the left rear fender, but only after making the appropriate bracket out of metal sheet.

Lastly, a driver's heater exhaust was added up front by a combination of thick wire and brass tubing.

Painting

Before painting the base color, custom markings were taken care of first. Large yellow "C51" numbers were needed on the turret sides. They represent the company commander's ride, in this case "Charlie" company. A simple approach was used by first airbrushing the turret sides yellow. Next, "C51" was cut out of tape with a sharp scalpel, and then pressed onto the turret sides.

The base color applied was Gunze Sangyo "Imperial Japanese Green". After spraying all surfaces from the fender up, the "C51" tape masks were peeled away to reveal crisp yellow numbers. The rest of the markings came from Archer Fine Transfers sheet AR35019Y. My references pointed to a vehicle code number starting with 23, which did not exist as a whole number on the transfer sheet. No problem, though, as there are plenty of single and double groupings of numbers to make your own combinations. They were cut from the master sheet, lightly taped to the model surface, and rubbed down with a pencil. There were no problems encountered and the results were perfect. A smaller "C51" was also added to the right rear fender.

The only other marking needed was an arrowhead shape to indicate the 1st Tank Battalion. These appeared in different locations according to references, but on this model they were applied to the gas cans, air cleaners, left rear fender, and the hull bow. The arrowhead shape was cut out of tape and used as a template to spray yellow paint through. A black artist pen was used to letter them with "1 TNK". The Marines apparently were not fond of large stars like the Army was, so none were applied.

The gun mantlet boot was painted "Tamiya Khaki" then shaded and highlighted with oil paints.

Future acrylic liquid wax was hand brushed over everything to seal the transfers. The effect was stunning, and captured the semi-gloss look of a well-cleaned vehicle. However, that was not in the plans for this model. Instead, the weathering process began by applying a thinned paint wash. The oft-used dark wash was instead replaced with a light tan color to simulate dust accumulation in the nooks and crannies of the vehicle.

While washes work better with a smooth surface, dry brushing works better with a dull one. So a clear matte acrylic was airbrushed on in light coats. A light tan artist oil paint mixture was dry brushed over the whole model. This brought out the texture and the surface detail.

Finally, the previously used Dark Earth color was gradually faded onto areas of the upper hull to graduate the color difference. The matte surface looked too dull for USMC Green, so semi-gloss was sprayed over these areas to bring back some sheen.

Mylar film from an electronic device baggie was cut to shape and applied to the periscope faces. Two clear MV Products lenses, #116, were glued in the outer headlights on the bow. The other light was in reality a very dark red, which appears black. A punched disk was painted gloss black to simulate this lens. The two antennas on the turret are steel wires with coiled wire bases, and the tow cable is picture hanging wire with Tamiya ends.

Conclusion

Commander Series Models undertook a tough job to make a kit of this beast. Casting the hull and turret in solid pieces—a difficult proposition, especially with the sizes required for this model—saves time during assembly and eliminates some common construction flaws. The tracks included are superb and a pleasure to deal with.

However, the kit has many difficulties that will frustrate even experienced builders, and so the task can seem more like work than fun.

—John Robinson

MMiR RECCE

Commander Series Models M103. Suggested retail $129.95.
Archer Fine Transfers US Registration Codes, non-stencil (yellow). Sheet AR35019Y. Suggested retail $6.95.
Tamiya M48A3 Patton. Kit number 35120. Suggested retail $26.00

References:

"Firepower, A History of the American Heavy Tank," by Richard P. Hunnicutt, Presidio Press, Novato, CA, 1988. ISBN: 0-89141-304-9: Hard to find, but indispensable.

U. S. Army Tech Manual: TM 9-2350-206-12 - Great if you can get one, but many diagrams from it are repeated in the Hunnicutt title.

Photos from personal collection taken at Quantico Marine Base, Quantico, VA. There are others scattered about the US at Army and Marine bases.
Internet – Use website text search engines to narrow the topic.

Horch & Carriage

A double dose of detailing fun

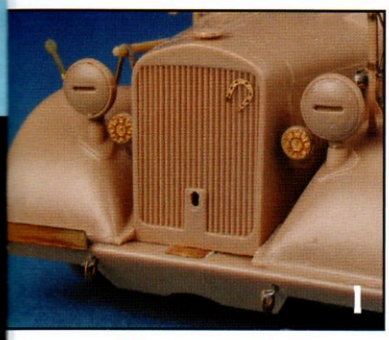
DIO SPECIAL FEATURE

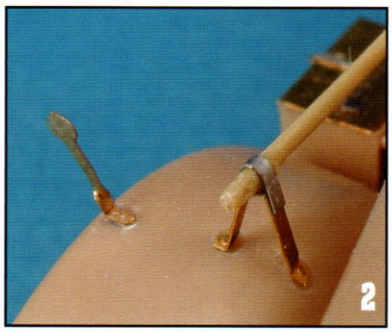
Also see page 74

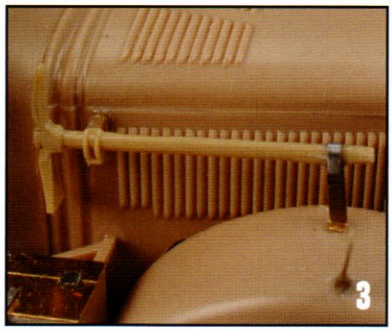
German personnel cars in World War Two fell into 24 different categories, each recognized with a Kfz prefix. The Kfz 15 class was one of the larger categories of medium passenger vehicles that included cars made by both Horch and Opel featuring four wheel drive. The Horch Kfz 15 was one of the more popular styles, and though designed for communications and recon, it was often used as a command vehicle due to its strength and durability. The vehicle mounted a spare tire on each side that could be covered with a semi-circular plate, and these wheels spun freely on their support axles to assist in negotiating rough terrain. The seats featured padded lower cushions while the backrests were unpadded. The Horch V8 engine enabled the car to top out at a respectable 56 mph. Over 12,000 units (possibly as many as 20,000) were produced between 1937 and 1943 and saw service on all fronts. Fully loaded the Kfz 15 weighed over 3.5 tons, which caused substantial problems in the suspension and transmission. Interestingly, the vehicle was so beloved that numerous field modifications were made to the undercarriage to keep the cars in service. A different version designated the Type 40 eliminated the external spares and widened the passenger area slightly, with one spare mounted inside on the left. Italeri's version of the Horch Kfz. 15 debuted over 20 years ago and is one of the true classic standouts in the Italeri line.

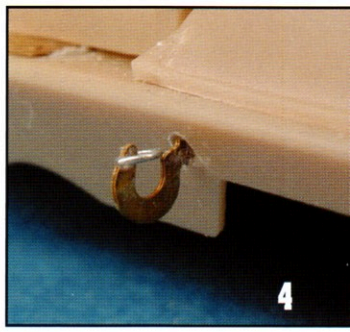
Another classic kit has recently been revived by Tamiya. Their 'Gulaschkanone' German Field Kitchen premiered in 1978, one of only two Tamiya kits containing horses. (Quick, name the other one.) Tamiya has removed the two horses and driver and replaced them with four figures and several accessory items, but under the name 'Feldküche' German Field Kitchen Scenery the field kitchen itself remains unchanged. The Tamiya kit features spoked wheels, though inflatable and solid rim wheels were also used, with the same wheels used on both limber and trailer (stove). The Große Feldküche Hf.13 could feed 125 to 225 men based on a 200 litre stew kettle in the center of the trailer. To the kettle's left was a 90 litre coffee urn, dispensing coffee from a tap on the rear. To the kettle's right was a grill for cooking potatoes and sausage. Each of these three cooking units had a separate fire door for wood, coke, briquettes, or charcoal. Safety valves on each lid told the cook when the steam was up and thus the fires were banked to conserve fuel. The stove pipe was detachable and mounted horizontally atop the trailer during transit. The limber was designated 'Vorderwagen Hf.11' and this is where the food stores were carried. Prepared food could be dished into aluminum food containers and transported by personnel to forward areas while the kitchen remained stationery.

So, these are our subjects this round. We'll go text light and photo heavy to see what's been done.

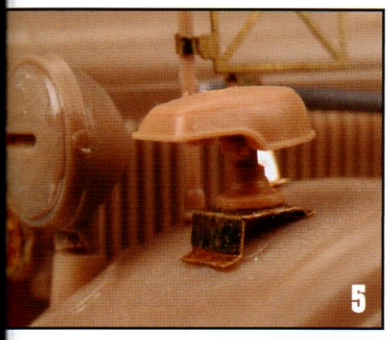


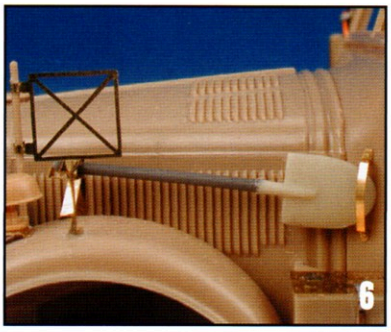


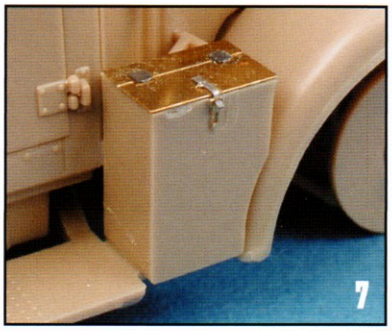


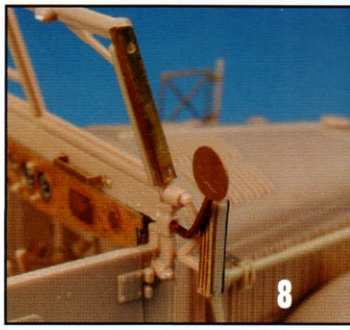


1. The detailing festival begins. Eduard's etch set was the primary contributor to the Horch. The front end boasts the proper flat pressed steel tow hooks with rings added from wire. The starter port was drilled out and a horseshoe added to the grill. The horns received new faces and the new license plate was installed. 2, 3. The pick on the right front fender was treated to Eduard brackets. Note Eduard's unusual and very correct, distance indicators. On this vehicle they were flat, as opposed to the more widely used 'pole with ball' configuration. 4. A closer look at Eduard's tow hook, properly flat instead of rounded. A coil of wire was wrapped around a brass rod then snipped to create the individual

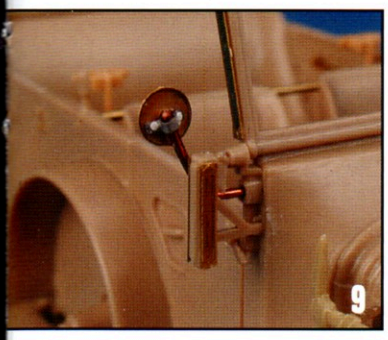


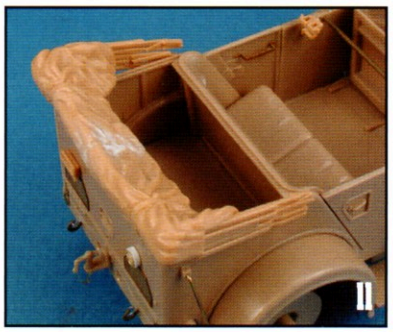


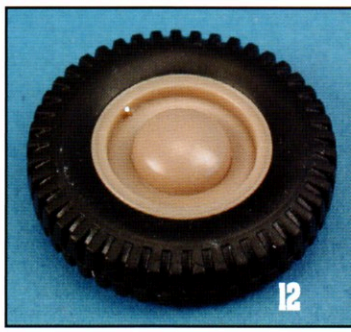




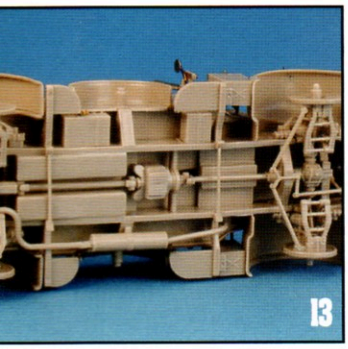
rings. 5. The etch Notek bracket was treated with a more detailed Notek light from the Tamiya Panzer IV On-Vehicle Equipment set. 6. The kit shovel on the left was replaced with an upgraded version from the parts box and etch brackets. Eduard's command pennant frame was installed. Pennants were added to the frame only when the commanding officer was on board. 7. The left and right stowage boxes were each treated to replacement lids and hasps. These boxes typically held tire chains. 8. This photo shows the right side mirror, turn signal indicator, and additional detailing for the windscreen. Eduard's set includes a complete photo-etched windshield frame, which wasn't used. A rectangular

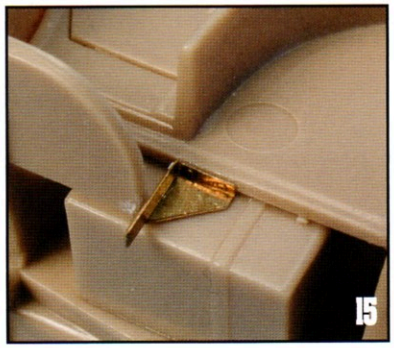


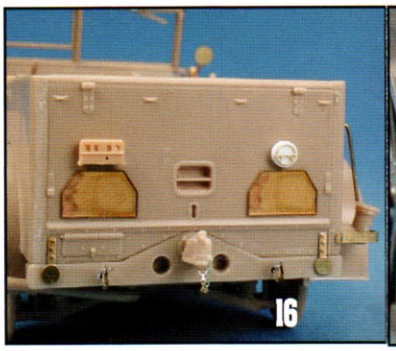




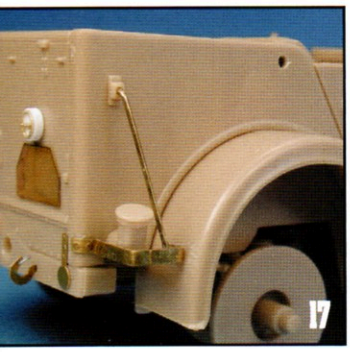
rear view mirror, centered inside the windshield, was added later after the panes were installed. 9. Lead foil strips and punched plastic rivets were added to the mirror mount. 10. The only drawback to Italeri's kit is the folded top, which is a solid U-shaped chunk of plastic. Say hello to a much better option from Tamiya's Steyr 1500. A healthy portion was cut from the center (the Steyr is much wider than the Horch) and the two halves puttied together. The Steyr's folding frame was also used. The Italeri kit does include a respectable raised top. 11. The replacement top installed. Much better! 12. Each of the six rims received a valve stem made from brass wire. This is one of the easiest details to add to any vehicle

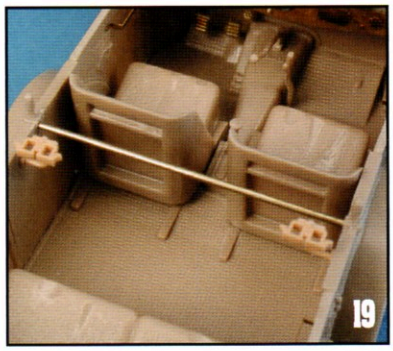


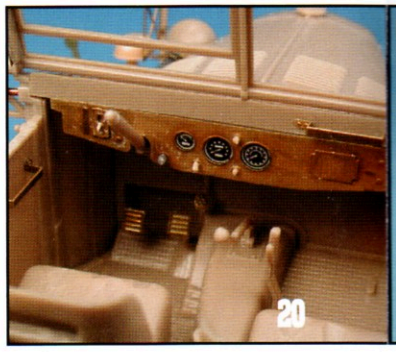




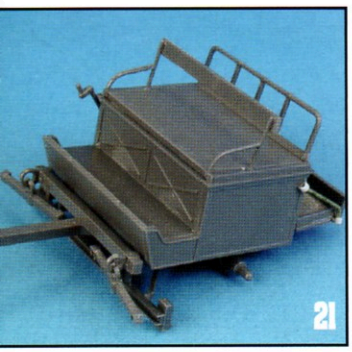
with inflatable tires. Holes were drilled with a pin vise and a long piece of wire was then dipped in superglue and inserted. As soon as the glue set, the wire was trimmed off at the highest edge of the rim. 13. About half of the kit's construction concerns the undercarriage. This is a real tribute to thorough design and makes the kit good enough to flip over in a ditch. 14, 15. Eduard provides replacement brackets for the fender steps. These require a bit of patience and test fitting, but the results are a great improvement. 16. The rear end. Eduard license plates,

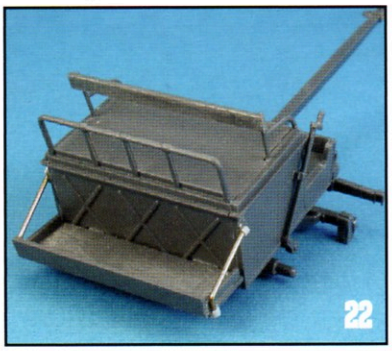


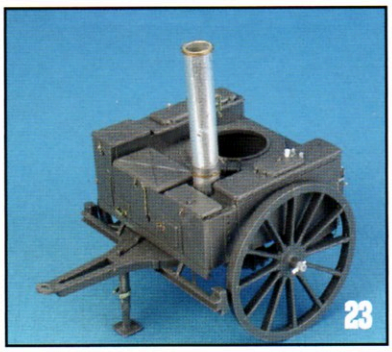


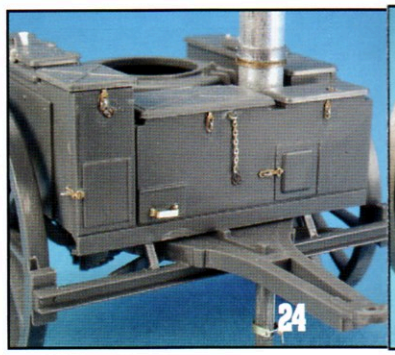


tow hooks, reflector mounts, and taillight cover mounted to a slice of plastic rod. A Tamiya Notek was again used here, and a bit of Aber chain dresses up the towing pintle. This entire panel opened upward to allow access to the stowage when the top was raised. 17. The fuel spout is protected from damage by an etched bracket and rod. A bit of brass rod was used in place of the kit part. 18. Etch grab handles were added to the inside of each door. Eduard ignored the interior and exterior door handles and so did I. 19. Brass rod again, this time forming the handhold bar

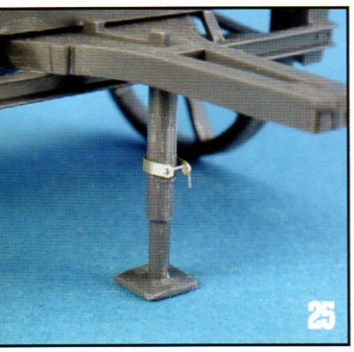


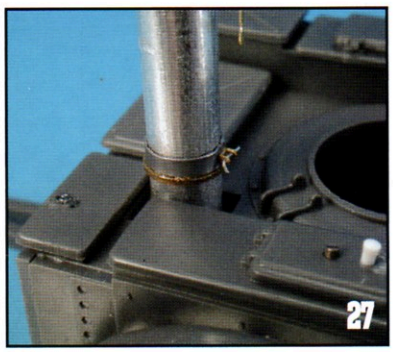


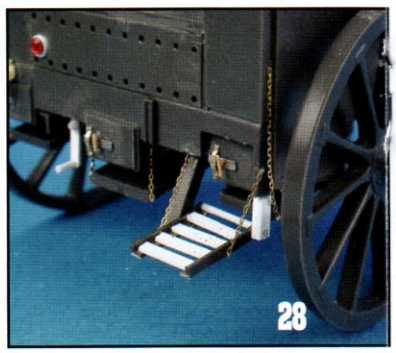




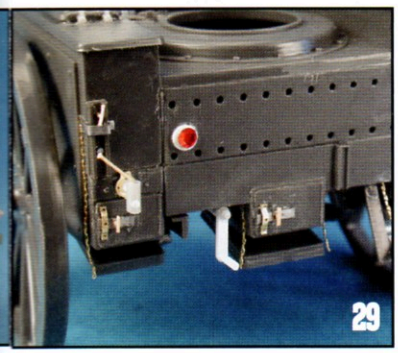
across the center of the Horch. The canvas seat cushions were dinged up with a hobby knife. 20. Dash away all. Eduard rocks again with an acetate gauge sheet, installed here behind their replacement dashboard. The knobs were all dressed out with fine plastic rod and etch foot pedals were installed. 21, 22. The field kitchen limber was built virtually straight from the box. The exception is replacement brackets for the stowage tray on the rear. These were cut from brass rod, with bits of plastic tube used for the mounts. 23. The kitchen itself. Surprisingly, one of the best



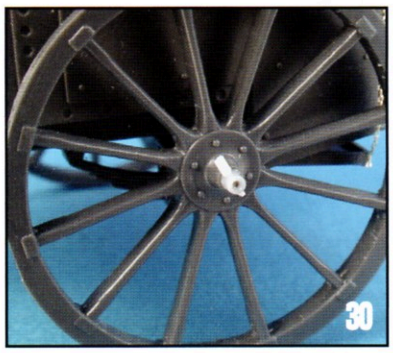




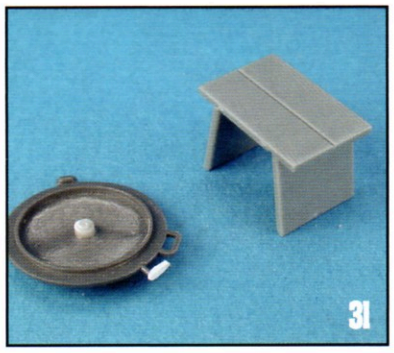
detailing references is Tamiya's new box art, which also reads "Model may vary from image on box." There's plenty to add here. The stove pipe was replaced with aluminum tube and the rim around the top was carefully cut using a slightly larger brass tube and a scale pipe cutter from K&S. The carrying handle and junction were made from lead foil, brass sheet, and wire. 24. These forward compartments all received etch latches plus chain and padlocks, mostly from Aber. 25. Detailing of the front stabilizer. 26. Ditto on the left. This is the lid for the coffee urn. 27. A closer look



at the junction. The stove pipe detached at this joint, and the pipe was mounted horizontally atop the trailer standing on that carrying han-



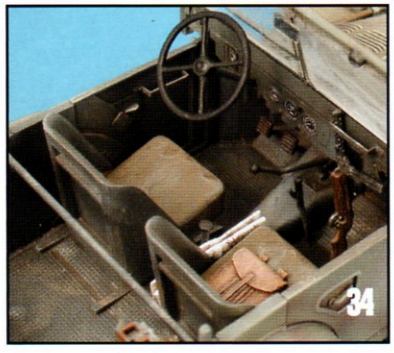
dle. 28. One of Tamiya's cook figures comes atop a wooden stepstool. But the real deal featured these nifty swing out steps. Just for fun the right side



step was made from Plastruct angle, plastic strip, and Aber chain. 29. This photo shows the hinged bottoms of the three separate cooking chambers,

allowing for ventilation and cleaning. Latches were scratchbuilt for each door. On the left is a scratchbuilt tap for the coffee urn—a very important

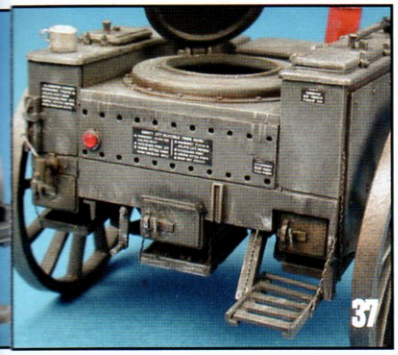
detail and painfully absent from the kit. Note the reflector lens position as well. 30. Each of the four wheels was dressed up with an extended hub and



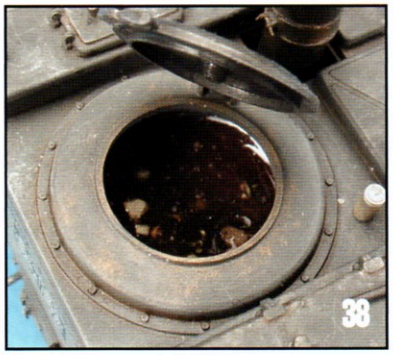
a key pin made from plastic strip—another detail extracted from the excellent box art. 31. Tamiya's step-stool plus the detailed kettle lid. 32.

The finished end of the Horch. I marked the Horch as a vehicle from the 26th Panzer Division. It's distinctive Grenadier head insignia was

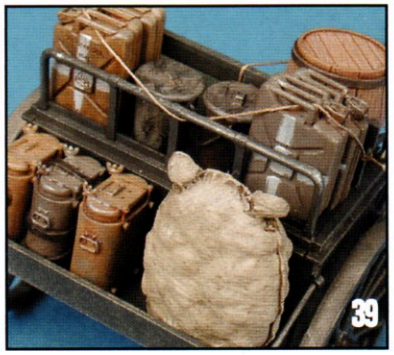
taken from VP sheet #232. 33. For some reason the vehicle has two license plates. 34-36. The Horch was painted as a re-painted vehicle, which means



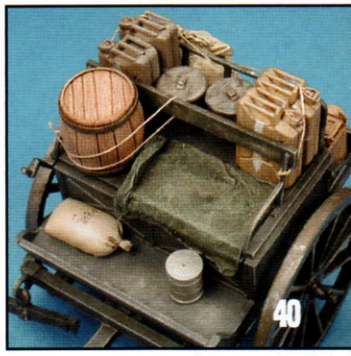
that it was first painted gray, then over painted with Dark Yellow. (leaving the interior gray) This gives the vehicle an interesting look. There's



quite a bit of gear inside, including a jacket from Jaguar and Italeri Jerry Cans. 37. These placards come with the kit and really set off the back end. 38.



Soups on! The hearty recipe for this soup is 5-Minute Epoxy mixed with acrylic craft paint. A little sand and static grass gave it that special flavor!



39, 40. Accessories here included mermite cans and a potato bag from VP and Tamiya Jerry Cans. The two covered pots come with the kit.

To see how this all came out, please proceed cautiously to the Model Citizen area on page 74. No pushing or shoving. Women and children first. Watch your step. No talking. Please have your tickets ready.

MMiR RECCE

Italeri Horch Kfz 15. Kit number 215. Still love ya after all these years. This is really a beautiful kit and comes to life easily with a few added details. In and out of the active list from year to year, so get it while you can.

Eduard Horch Kfz 15 Detail Set. Item number 35114, Eduard. One of their simpler sets and perhaps the only real detail set for the Italeri kit. Includes a few parts I didn't use, including a complete etched windshield. Suggested retail $14.99.

Tamiya Feldküche German Field Kitchen Scenery. Kit number 35247. An old classic comes around again with new figures and more food but no horses. Kit graciously provided by the manufacturer. Suggested retail $16.50.

References

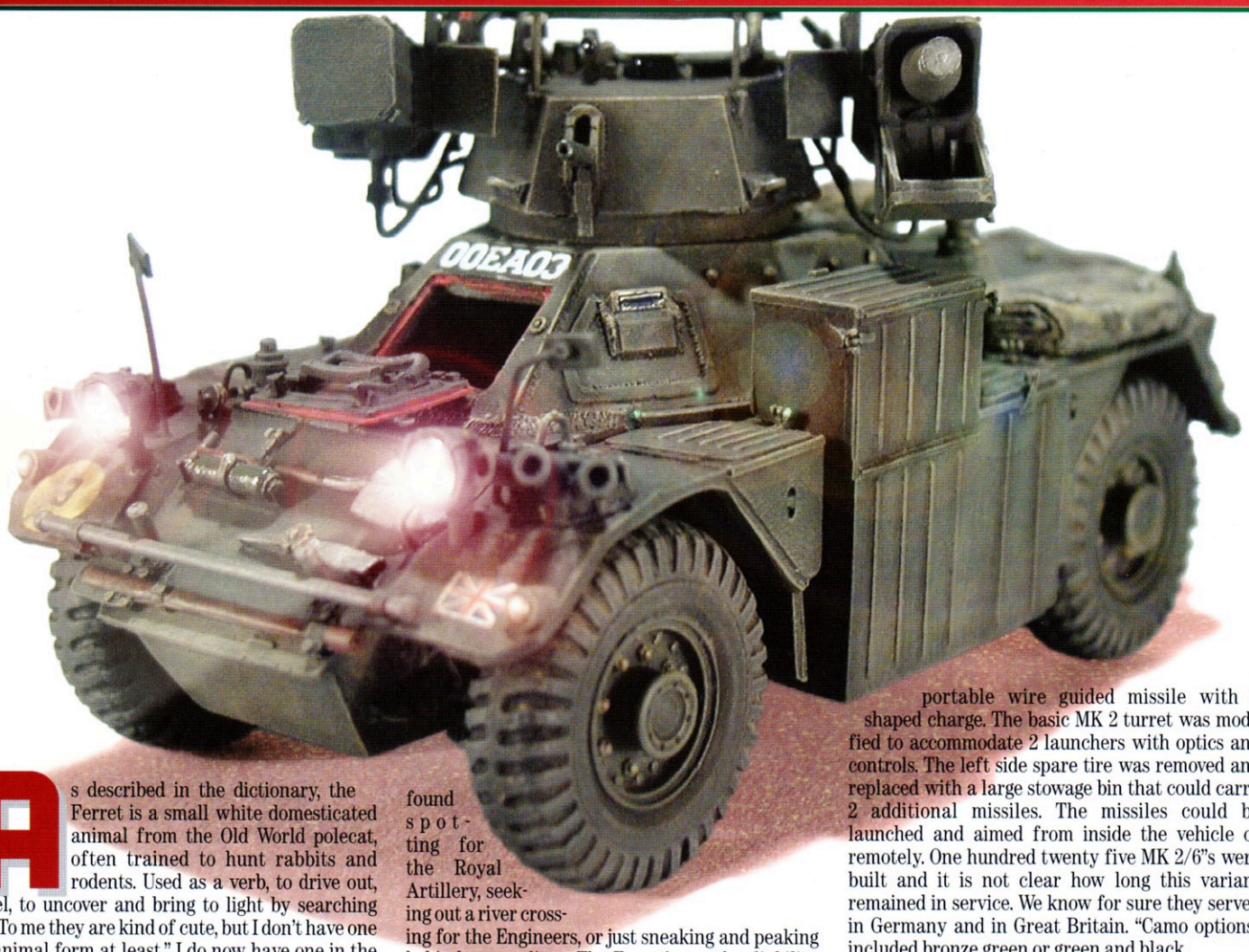
Cars of the Wehrmacht. Schiffer Publishing, 1994. Reinhard Frank walks us through the maze of German personnel cars, and you'll find plenty of info on the Horch and dozens of others.

German Personnel Cars in Wartime. Schiffer Publishing, 1989. Reinhard Frank's lite version of the preceding hardcover volume. Still handy to have around.

TM-E 30-451, Handbook on German Military Forces. US GPO, 1945. Man, I have just GOT to start using this one more. Originally a restricted manual, it was reprinted in the early 1990s by the University of Louisiana press and shows everything we knew about the Germans in 1945. A bit thin on tanks, but includes a nicely detailed chapter on field kitchens.

Ballistic Polecat

The Ferret MK 2/6 Vigilant ATWG From Accurate Armour



As described in the dictionary, the Ferret is a small white domesticated animal from the Old World polecat, often trained to hunt rabbits and rodents. Used as a verb, to drive out, expel, to uncover and bring to light by searching out. To me they are kind of cute, but I don't have one "in animal form at least." I do now have one in the resin variety, that being the subject of our little tale. Accurate Armour's Ferret MK 2/6 Vigilant ATGW, mastered by Jon Bottomley "the Master of armored car madness," is the latest in AA's series of Ferrets. Don't let the diminutive size of this kit fool you. There is a ton of a detail to be had and besides, you don't have to feed it.

The Ferret was developed in the late 1940's as a replacement for the Daimler Dingo that was made famous during WWII in the dessert war in North Africa. Production of the Ferret began in 1952, when it was used by the British army and sold as an export to other nations. The Ferret was a very reliable and flexible design which found our little friend serving everywhere the British Army was, from Northern Ireland, performing internal security and patrolling, to the Gulf war some 40 years later, still doing it's thing. Approximately 4500 Ferrets were built and some are still in service to date with third world nations.

The Ferret really lived up to its namesake. Intended as a light reconnaissance and inter-communications armored car, the Ferret's versatility and reliability found them used by just about every branch of the British military. The Ferret could be found spotting for the Royal Artillery, seeking out a river crossing for the Engineers, or just sneaking and peaking behind enemy lines. The Ferret's speed, reliability and fire power made it possible to get itself in and out of trouble fast. Throughout its career the Ferret underwent numerous modifications and conversions, giving those of us in "Geekdom" lots of possibilities.

The Ferret can be broken down into 5 basic Marks. Each Mark could have numerous variants, too numerous to get into here. Example, MK 2/3 VHF = a MK 2/3 with a VHF radio. The breakdown works something like this. MK 1, is the basic open top liaison vehicle which could carry a 30 cal. Browning or a .303 Besa in a pintle mount. No turret. MK 2, the most numerous of the bunch is the basic reconnaissance vehicle with a 30. Cal. Browning mounted in a turret. MK 3 was a proto-type that served as the basis for MK 4 and MK 5. MK 4, referred to as the big wheel version, included watertight bins and collapsible flotation screen mounted to the hull. It also included 11"x20" wheels and tires. MK 5 was a converted MK 4 with an aluminum turret similar to the FOX.

Our subject, the MK 2/6 Vigilant was developed in the early 1960's as an air deployable reconnaissance car with a tank busting edge. The Vigilant is a portable wire guided missile with a shaped charge. The basic MK 2 turret was modified to accommodate 2 launchers with optics and controls. The left side spare tire was removed and replaced with a large stowage bin that could carry 2 additional missiles. The missiles could be launched and aimed from inside the vehicle or remotely. One hundred twenty five MK 2/6"s were built and it is not clear how long this variant remained in service. We know for sure they served in Germany and in Great Britain. "Camo options" included bronze green or green and black.

The kit is neatly packaged in a small box and included all gray resin parts, "no white metal," a small photo-etch fret and some brass wire. Yes, gentle reader, an interior is included. No markings are included, so you are on your own. The instructions were clear and concise and posed no major problems. I would still recommend you have references at hand. Due to the small amount of parts in this kit I marked and removed as many as possible, sorting and cleaning as I went along. The main hull casting was a real peach with no bubbles and only one pour plug on the front to deal with. Very nice!

The suspension is very simple. Attach the suspension units, part W rear and parts F&B on the front. There are locating notches that allow the units to be attached straight and square. Each unit gets a spring and the front wheels require the steering linkage. Position the steering blocks K/L right and left first and the link arms will pose no problems. My kit was missing one of the steering blocks so I grabbed something that looked appropriate from my spares. I also added the eight shipping tie downs (part Q). This was a mistake! Without the wheels, I managed to break them off. Put them on after you attach the wheels.

The Ferret MK 2/3 carried the Larkspur radio, so you have options on the location of the aerials. I mounted mine per the instructions, with the radio box CT mounted to the right rear fender and the first aid box mounted to the right rear upper hull. While in the area, I added all the details to the rear fenders and the small rear light on the very back of the vehicle (part BZ). Before attaching the details make sure the exhaust is in place with its little photo-etch screen (part E2). The left rear radio unit needed some custom sanding to get it to fit right. Be sure to dry run the location of the pieces, there is not a lot of room on the fenders so watch out. I also added the large missile stowage bin (part EA) before calling it a night.

With things starting to come together I decided to take a whack at the interior. The upper superstructure (part CX) should be test fitted before going at the interior madness. The fit of my upper superstructure was not so good. This is due to the nature of resin casting, which has a tendency to shrink and warp in thinner areas, as in this case, the sides of the superstructure. I straightened mine out as best I could using a hair drier. Even this did not yield a perfect fit, so filler will be required. I started by adding the interior bits to the upper superstructure, which thankfully had location points. The front hatch was left off because it was to be displayed open to allow a view of the finished interior. The inside of this assembly will need to be painted before attaching it to the model.

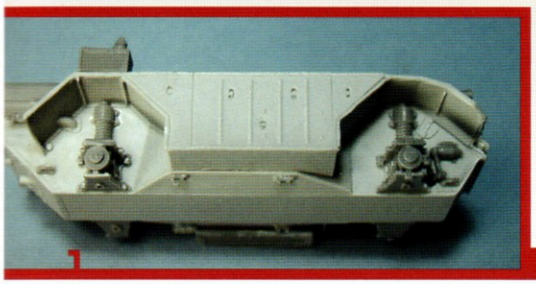
Although location points are given for most of the interior components, you will still have to dry run the assembly process to make sure everything fits. The area fills up very fast. Starting from the rear of the fighting compartment, the Larkspur radio unit was fun tacked in place and the air filter to the right of it was attached. The radio was then repositioned to allow the placement of the bits to the left of the unit: the oil filter, charger unit and switch box. The commander's seat (part BY) was then added, along with the driver's seat. Keep in mind that the brief case has to fit in between the two seats. The ammo trays were added to the inner doors and the remainder of the bits in the drivers compartment went together with no problems. The steering wheel mounts to the roof of the lower hull. The superstructure sub-assembly was test fitted with everything in place to make sure there were no interferences. Onward Christian Soldier.

Moving to the front end, you need to add the smoke dischargers first, as they are a tight fit to the headlamps. You have a choice of either early, mid or late light fixtures. I went with the mid (part CD). There are a lot of variations with Ferrets so you can't go wrong. The headlamps were drilled out for MV lenses #159. With the smoke dischargers properly placed, the rest of the details fell into place. A/A included resin tools this time and they looked very good. You do need to add a piece of brass rod to retain the shovel. The kit also includes a neat set of photo-etch sand shields, which attach to the two prominent posts on the front of the vehicle (part P). I left mine off, as they would cover the tools. If you decide to mount them you will need to use part T, the sand channel lock bar.

The lower hull finishes off with the addition of the finer details. Tiny resin wing nuts were added to all of the locks on the stowage bins, 10 total. A/A also provides photo-etch locks for the bins so you have the option of the nuts or the locks. The kit also comes with a little stowage in the way of a tarp and a Camo net. Again photo-etch straps are provided so you're not locked into the location of these items. To me, the straps on the bits were fine so I placed them accordingly. On to the turret.

You would think a little turret like this would be a walk in the park, right? Wrong. The turret is the toughest part of the whole project. First off, the fit of the upper and lower are very sloppy. Again, the resin process rears its head. Not a major problem, but leaving the lower half of the turret off so as to make finishing the interior easier is out of the question. Armed with the trusty hair drier I managed to straighten out the upper half and the commander's hatch. This gave me a reasonable fit so I began adding the interior bits, which consisted of various junction boxes and the firing end of the Browning. With the interior out of the way, the lower half was glued and filled.

Now the fun begins. To attach the missile pods you need to add the side panels, part EB left and EC right. These don't pivot with the pods so they need to be parallel with the turret. With the side panels in place you can attach the pods themselves. They can be positioned in either the travel or firing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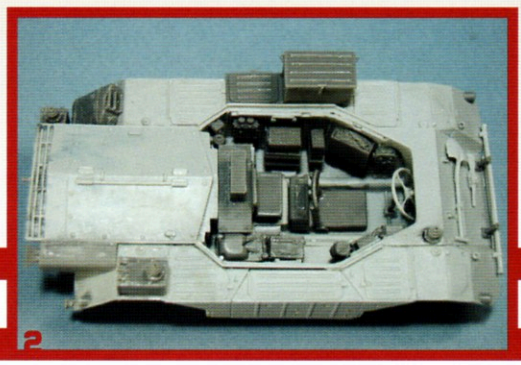
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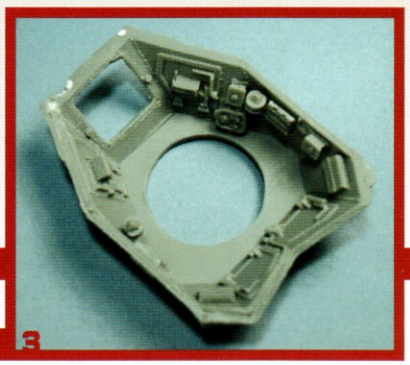
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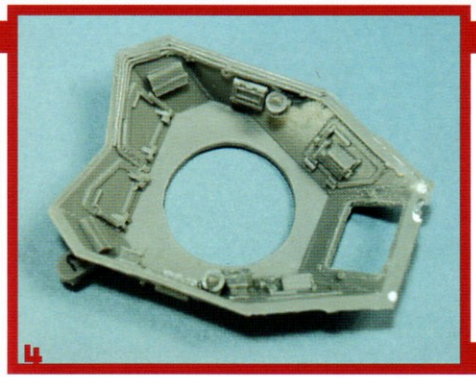
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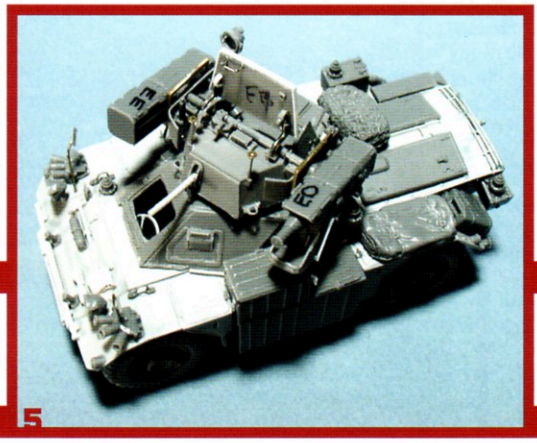
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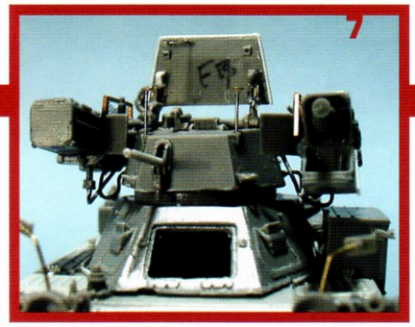
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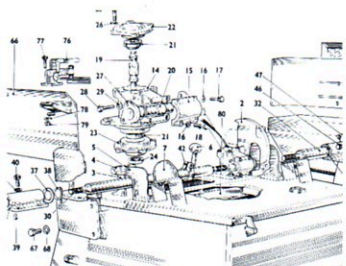
1. Right side view showing the assembled suspension. Note the busted tie down hooks. OOPS. 2. Although location points are given for most of the interior components you will still have to dry run the assembly process to make sure everything fits. 3. The fit of my upper superstructure was not so good. This is due to the nature of resin casting which has a tendency to shrink and warp in thinner areas. 4. Another view of the upper superstructure showing the location of the various components prior to getting a base coat of flat black. 5. Top view of the left side gives a good indication of the level of detail in this kit. 6. A good overall front view of the completed model with all the elements in place. 7. This view shows the locations of the missile conduits to good advantage. Note my homemade stop and grab handle. The hatch stay supports part E4, were attached to lengths of brass rod that were glued to predrilled holes in the turret roof. 8. This is a nice detailed drawing showing the actual construction of the missile pod kits and the hinge assembly.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position. I went with somewhere in between. I don't know why, it was just one of those on the spot things. The pods mount to bosses on the side plates so getting them to the same angle is a challenge. The right side pod is closed, while the left side is open with a missile ready to fire. You have to add the pod door to the left side, as well as brass rod for the stops. Junction boxes were added to the bottoms of the pods (part E0) and the firing conduits were added, per the instructions using the kit supplied solder. Very nice!

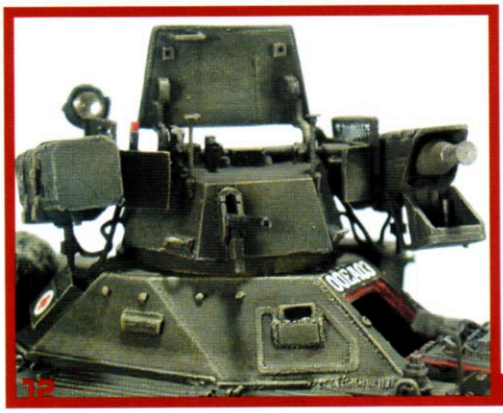
The hatch stay supports (part E4), were attached to equal lengths of brass rod that were glued to pre-drilled holes in the turret roof. The business end of the Browning was attached to a pre-drilled hole. This is a resin bit and required a little straightening with heat. The photo-etch side screens (parts E1 & E3) were bent and attached. Remember the flanged end points outboard. Lift hooks, missile sight and hatch locks completed the front of the turret. The spot lamp is a field mod, I believe, and was drilled out for MV lenses #139 and mounted to the upper rear of the right side shield. A conduit was added during painting.

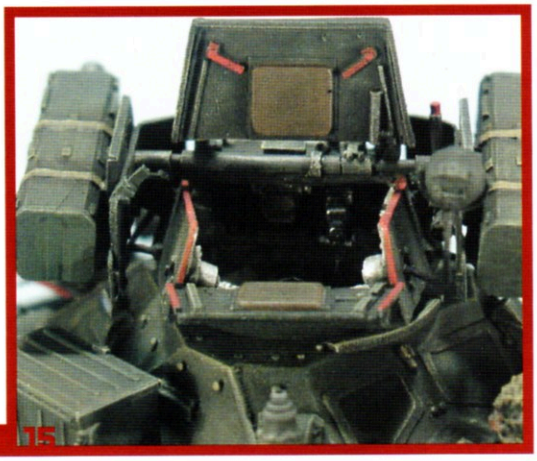
The commander's hatch on my kit was missing the hinges. In most cases this would not have been a major dilemma. The hinges on this hatch are bent straps with a stiffening bead running down the center. The shape of the hinge is more like a large "C," which is shaped like this in order to clear the missile pods pivot bar. Hmmm. I fun tacked the hatch into the proper position and measured out the approximate length and shape with a piece of solder. The bent solder acted as a template for forming new ones out of brass strip that was bent using a drill. The bead down the center was added using the solder template. I also added hatch pivots to the ends of the hinges. The hinges were then attached to the hatch, as well as a grab handle made from brass wire. One of my hatch stops was missing part FH, so I made this out of plastic strip. Once dry, the hatch assembly was attached to the top of the turret, where I managed to bend it into final position. I have included a drawing in case you run into the same problem.

The painting of the Ferret required some new tricks. New to some of us, but not to the airplane geeks. Know your enemy. The interior of the Ferret has an aluminum finish. How to accomplish this convincingly? Enter Gunze metalizers. These paints come in a variety of metal shades and are buffable, which really won't matter in our case. I have messed around with many similar products and am pretty much sold on these. Most metalizers require an airbrush and the Gunze paints are no different. Warning, these paints do stink so ventilation is a must. I chose the aluminum shade for our little adventure. I should mention one more thing. Their bottles are all labeled in Japanese so I asked the hobby master about clean up. You are supposed to be able to clean your airbrush with alcohol. This works ok, but I found paint thinner worked a little better. You do not have to thin these paints.

After the model was washed and primed, I shot the whole works with Tamiya flat black. The interior of the upper supper structure, interior itself and the turret interior were then shot with the metalizer, all in the same session. The metalizer dries in minutes but I allowed it to dry for a day or two. All of the various interior components were painted by hand. Radio, seat cushions, junction boxes, etc., etc. Metalizers with not take a turpentine wash so you're stuck with the acrylic method. I know acrylic washes are not popular, but there is a way to get the same effect as oils. By adding a little dish soap to the water the surface tension on the paint will be broken, allowing the wash to flow into the nooks and crannies. A small amount of black and raw umber acrylic paint was put in a paint cap and the soapy water was

9. Rear view shows the location of the aerials and the stowage. 10. An overall right side view of the completed kit. Note the sexy little photo-etch screen covering the exhaust. 11 – Another front view, notice the gap on the front superstructure that will require filling and rework of the weld seems. 12. The finished missile storage bins. The color of the missiles is a brownish olive color with a silver warhead. You can actually see those pesky wing nuts. 13. Rear view of the completed model showing the wonderful level of detail. The taillights were painted in silver first and then hit with either Tamiya clear red or orange. 14. Rear view of finished turret interior from the right side. 15. Rear view of the finished turret, this time from the left side. Note the conduit to the spot light that was added during the finishing process. 16. Front view shows the effects of weathering. Note the I.D. number, which was made from black decal film and white dry transfers. It is common practice to paint pinch points in a red color.

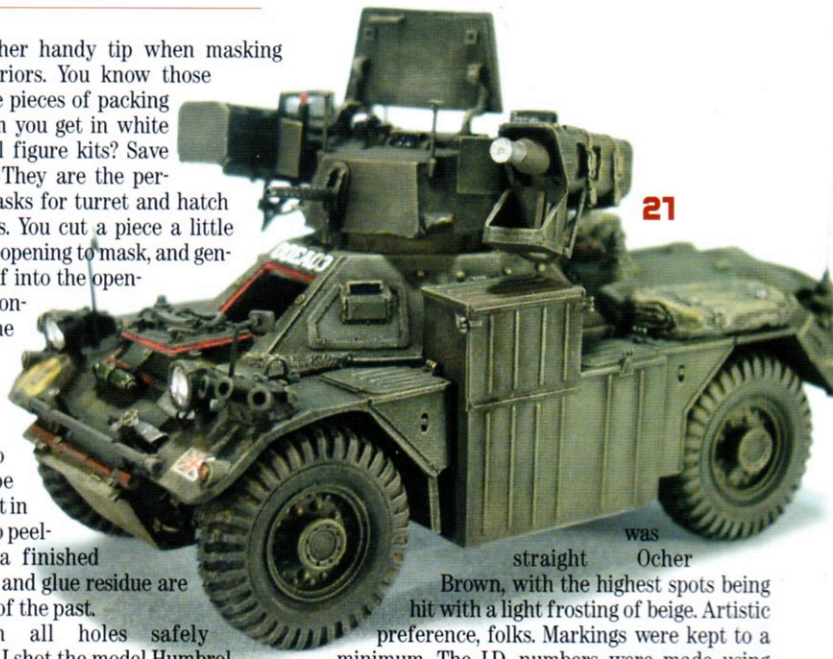




17. Front right side view, the wood items were painted using Vallejo Mahogany brown and washed with W/N Vandyke Brown. A light coat of semi-gloss gives the wood a very realistic appearance. 18. A nice over all view of the right side. The Red Cross is a dry transfer and is a little large but it is all I had at the time. Note the damaged missile screen. I would like to say this was intentional. BUT. 19. Top front view of the completed model which really shows off nicely when finished. 20. Rear view shows the engine deck and the opened up turret. Note the finished results of the kit-supplied stowage. 21. Left side view, note that the straps for the missile pods are a khaki color with the buckles in silver or metallic if you like. 22. An outdoor shot of the right side. Nothing like natural sunlight when taking pictures. 23. Overall left side view of the finished kit.

added until the proper consistency was achieved. From here on out it is just like washing anything else. The advantage is that you can begin dry brushing in a few minutes.

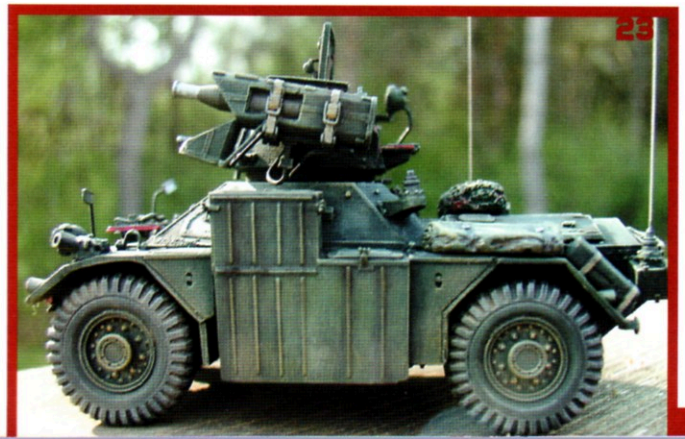
With the interior elements finished it was time to join the upper super structure. The fit was rough, so filler was used on the side and new weld seems were sculpted on the front using Magic Sculpt. Here is another handy tip when masking interiors. You know those nice pieces of packing foam you get in white metal figure kits? Save them. They are the perfect masks for turret and hatch openings. You cut a piece a little larger than the opening to mask, and gently cram the stuff into the opening. The foam will conform perfectly to the opening and will leave no residue as in the tissue paper method. You don't even have to use tape to hold it in place, so peeling of a finished surface and glue residue are a thing of the past.



With all holes safely stuffed, I shot the model Humbrol Deep Bronze Green. After a few days of drying time I decided to use the same acrylic wash on the exterior. I am still playing with this method myself and was a little unsure of the end result. After the wash dried I was pleased with the way the color settled into the low spots. Due to the small size of this model and all of the tiny details, care must be taken when dry brushing. I dry brushed using various shades of Vallejo greens lightened with Khaki and Ocher Brown. I like a yellowish tint so the final highlight was straight Ocher Brown, with the highest spots being hit with a light frosting of beige. Artistic preference, folks. Markings were kept to a minimum. The I.D. numbers were made using black decal film and white dry transfers for the lettering. There are no current I.D. sets for the ferret or any other modern British vehicles so you are on your own. The weight disk and the British flag came from A/A.

I really enjoyed this kit, I think it or any of A/A's Ferret variants are within the skill level of most modelers, with this kit being the toughest of the bunch. These kits would make for an excellent introduction into the wonderful world of resin. So if you're a die-hard plastic maniac, these kits would make for a smooth transition. Like I said, "a tiny kit with lots of detail." HAVE FUN.

—Nick Vanston



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Accurate Armour Ferret MK 2/6 Vigilant ATWG. Kit number KT 122. Kit graciously provided by the manufacturer. Suggested retail price £38.40, or about $65.00.

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Godzilla Beware

Look! It's a Leopard! No, it's an Abrams! No, it's a Japanese Type 90! A Japanese Type 90? Yes sir, Tamiya puts out three very nice kits of the modern Japanese Type 90 Main Battle Tank in what are probably the nicest building models to come along in awhile. Here we take a look at combining two of them, with some cool photo-etch, to come up with a neato Japanese tank prepping for some live fire training.

The real deal

The Type 90 is a Mitsubishi Heavy Industries product that you won't be seeing at your neighborhood Japanese car importer. The Japanese Ground Self-Defense Force's Technical Research Headquarters began to develop the Type 90 as far back as 1976. In the mid-1980s, two prototypes emerged from the R & D effort, both equipped with a Japanese produced 120mm gun and ammunition. After the initial trials, the JGSDF decided to make some changes with the most important being the change to the NATO standard smooth bore 120mm gun produced by Rheinmetall of Germany. This is the same gun on the Leopard 2 and the M1A1/M1A2 Abrams. More than 150 Type 90s have been produced and production continues.

Of the three modern MBTs that use the Rheinmetall 120mm gun, the Type 90 is the only one that uses a bustle mounted autoloader. One of the three bustle top ammunition storage blow off panels is actually an access door where the crew loads up to 16 ready rounds of APFSDS-T and/or HEAT. The gunner can also load ammunition from inside the turret, while additional ammunition is stored to the right of the driver's position. This autoloader reduced the crew to three (commander, gunner and driver) from the more common four in most current western MBTs.

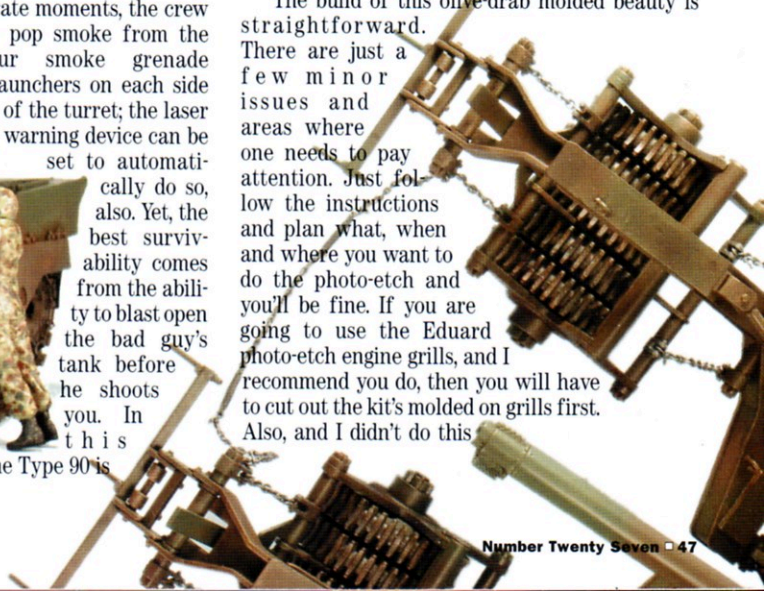
The Type 90 is powered by a Mitsubishi 10ZG 10-cylinder water-cooled diesel than can develop up to 1500 hp at 2400 rpm. The vehicle has an automatic transmission, hydrostatically controlled regenerative differential steering and both torsion bar and a hydropneumatic suspension. The latter is on the first two and last road wheels. This should make the Type 90 ride as good as any Lexus that money can buy.

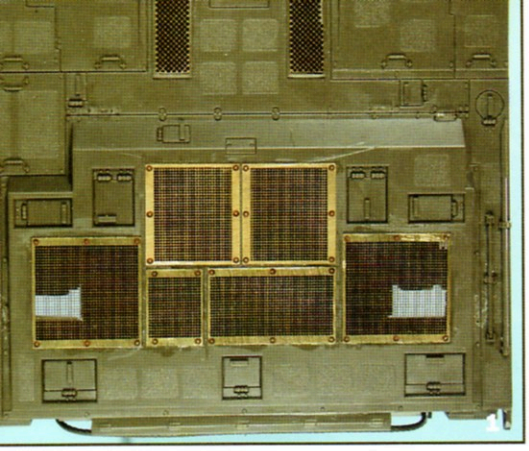
The JGSDF has not made public what kind of armor is on the Type 90, however, one can surmise that it has some form of composite armor in the frontal arc of both the turret and hull. The tank also has a laser warning receiver system to warn the crew that they are being lased by the enemy or a traffic cop desperately in need of his monthly quota. And, in those desperate moments, the crew can pop smoke from the four smoke grenade launchers on each side of the turret; the laser warning device can be set to automatically do so, also. Yet, the best survivability comes from the ability to blast open the bad guy's tank before he shoots you. In this area the Type 90 is very lethal, with the 120mm smoothbore being combined with a state-of-the art stabilized fire control system.

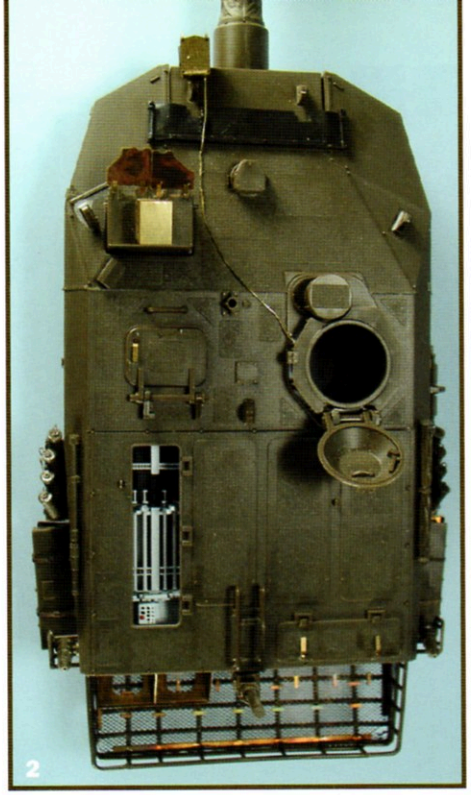
If Tamiya makes it, they will build it

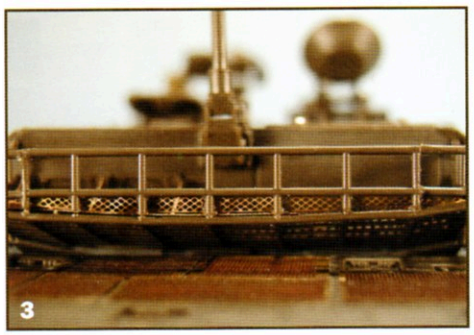
I'm sure that, here in the States, models of Japanese armor have never been as popular as the German, US and British critters that we see stacked on our local hobby store shelves. If there is a bottom line to this article, it is: Buy this kit, build this kit! This puppy is finely engineered and goes together well and there are two good photo-etch sets available. However, one could make a very good looker of the Type 90 just building the kit right out of the box. What is even neater, this model tank comes in three flavors. Tamiya initially introduced the standard Type 90 MBT, then issued the Type 90 with a real cool mine roller attachment. Since then, they produced the standard MBT, but with the addition of the hatch to the autoloader open, exposing part of the autoloader system. This latest offering of the Type 90 includes two extra Japanese tankers, in their multicolor camouflage uniforms, loading HEAT rounds. This vignette has extra HEAT rounds and the boxes they came in with all the stencil markings. This article combines the Type 90 with mine roller, the Type 90 with autoloader, along with both the Eduard and Ordnance Models photo-etch sets.

The build of this olive-drab molded beauty is straightforward. There are just a few minor issues and areas where one needs to pay attention. Just follow the instructions and plan what, when and where you want to do the photo-etch and you'll be fine. If you are going to use the Eduard photo-etch engine grills, and I recommend you do, then you will have to cut out the kit's molded on grills first. Also, and I didn't do this









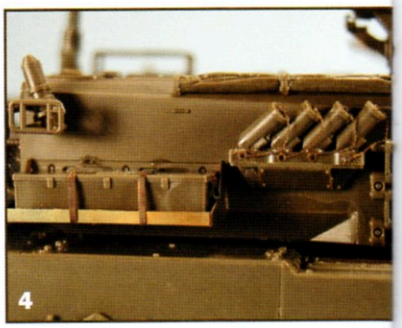
as I discovered it after building the hull, you can see through the rear outboard grills and see the drive sprockets. Some card stock magic should be able to cover the sprockets from view through the grill.

Here are some pointers as you progress through the Type 90's hull:

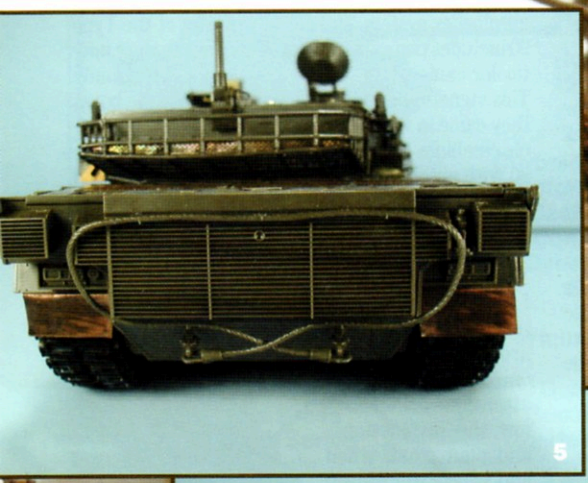
- In step 7, leave off parts G20 if you are going to use MV lenses on the headlights. Both photo-etch sets have a replacement for G20; both look good, Eduard's is easier to use but a tad too large. I used Eduard's.
- Also in step 7, leave out C9 and paint it separately. Don't put the driver's hatch on till after the model is painted and weathered. This is so you can butt the clear piece on C9.
- In step 8, the fit of the two parts B29, the rubberized fenders, is not too good. Mine came out with a gap. I filled it in by rubbing in some Testors contour putty. This left a smaller, more uniform gap that looks just like those on the real Type 90.
- Don't forget to add the horn, part B5. It's easy to overlook. I did and had to become very clever and dexterous to get that little thing in through the turret opening. Fortunately, I was working alone in the basement and my kids didn't pick up new vocabulary.
- Don't go crazy painting the tools on the right forward sponson as part C12 covers most of them up. For the diorama inclined, this would be a neat part to make in the open position with a tank dude grabbing his favorite spade.
- One of the curious fit issues was the holes made for parts A5 on the hull and turret. The holes are too big and the part wiggles around. This is no biggie, but kind of odd given the great engineering of this kit.

For the mine roller, build per the instructions from step 10 through 13. Ensure absolutely that you do not use cement as the instruction say. If anything gets glued that you are not supposed to, the mine roller will not be able to be attached later. Do step 14 after the mine roller equipment is painted and weathered. Tamiya gives you enough chain, but be careful with the attaching wire. I ran out as I was making the twist pieces large enough for my hamhock fingers to be able to twist them. Since I'm on the chains, I'll describe how I painted them. I installed them first, then, keeping them tight, I painted them with the darker shades of Testors Model Masters Metalizers.

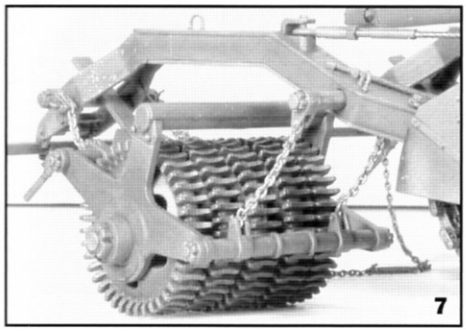
It takes a couple of coats but looks good. This paint is thin and may splash on the roller apparatus, but that can be corrected with dry brushing.

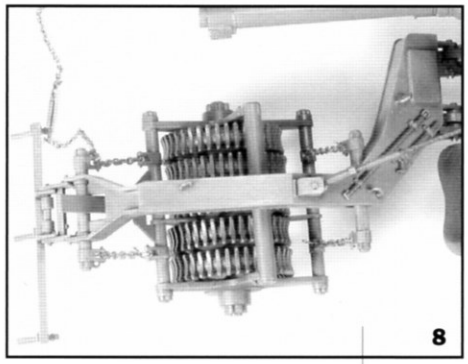


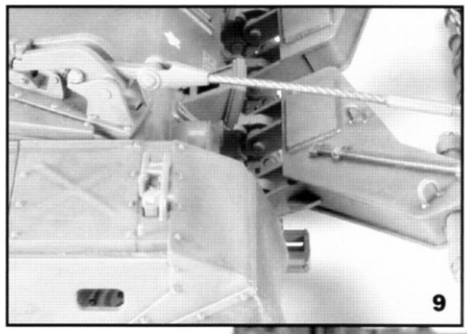
The turret also proceeds with a straightforward build. If you are doing the autoloader, you will have to build, paint and install it prior to continuing with the turret. I painted the whole inside of the turret white to insure that all that is seen through the loader opening is seen as white. When it comes to painting the outside of the turret, just mask off the opening by stuffing wadded bits of paper towel into the hatch opening. I used the Ordnance Models etch replacements for C4, C5 and C6. They also include some very nice tie-down belts to wrap around the storage boxes. I also used their mesh on the bustle rack. This etch part looks superb with the attachment hardware etched in nicely. However, it is a very fine screen and takes a delicate touch to put on, so be careful. The mesh looks so good, I decided not to put stuff in the bustle rack so it can be seen. Also, the bustle rack itself is delicate. Where the rack turns at the corners, it slightly bows out, creating a fragile part. I manage to break both corners, one just by handling and the other when my desk lamp fell on my freshly finished turret and clipped the bustle rack. Be very careful with this part to avoid a case of high blood pressure. The kit comes with very short antennas to mount on the turret. In *Panzer Magazine* I've seen pictures of the



1. The see through grill problem. 2. One fine lookin' turret. 3. Ordnance model's intricate bustle mesh. Handle with care! 4. The right mine roller, showing the nice look of the metal chains. 5. You won't see one these at the Mitsubishi dealer. 6. Photo-etched mud flaps add class! 7, 8. The roller and mine detector set-up. 9. The upper roller connecting gear. 10. This is the complete roller assembly installed on the front of the tank. 11. Photo-etch goodies. The Ordnance Models smoke discharger chains and stowage straps. 12. Bustle details and the nice Ordnance Model mesh for the rack. 13. More of that sexy Ma Deuce. 14. A look into the autoloader with HEAT at the ready.



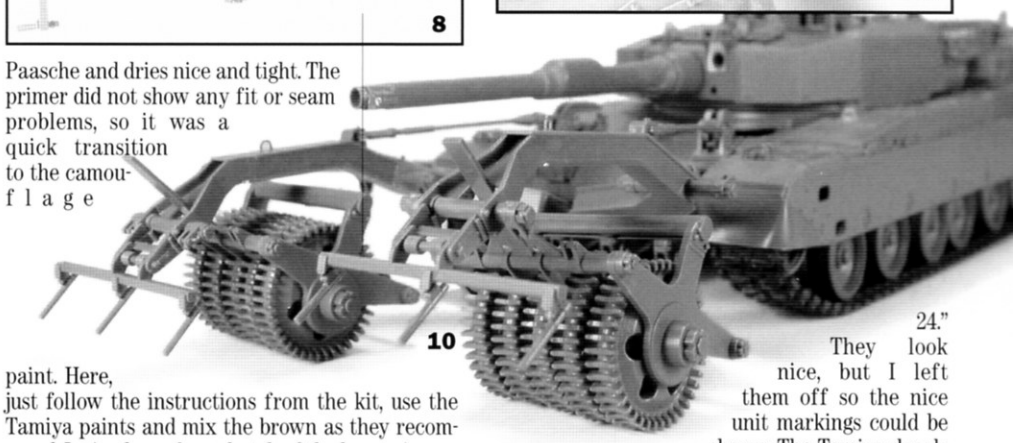




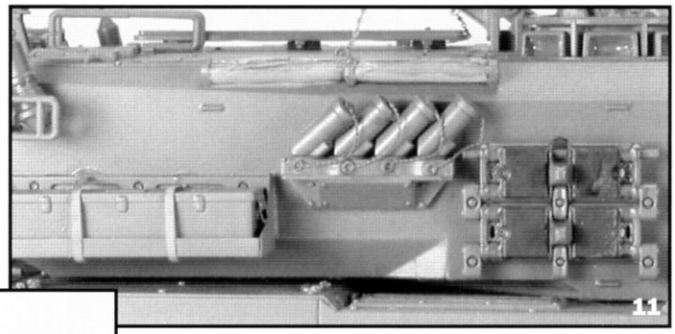
tanks with the short antenna and with long ones. I cut off the small antennas, drilled out the mounts and installed long antennas using thin steel wire. The antennas can be rotated back so I did so with mine, adding a rakish look to the tank.

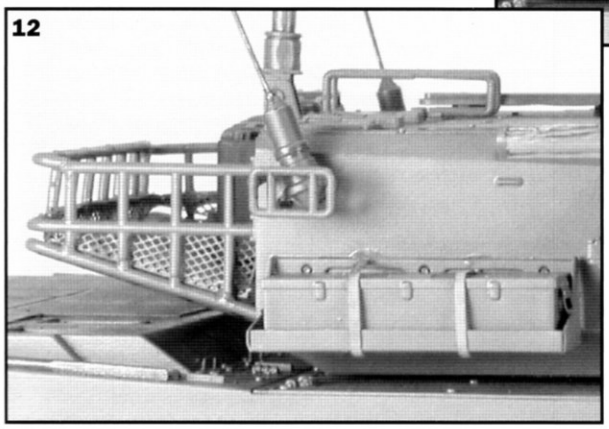
The .50 Caliber M2 machine gun in this kit is about the best I have seen in plastic. No need to replace it with a brass one here. Eduard gives a very nice anti-aircraft sight to put on the Ma Deuce. The Eduard etch set gives some nice devices to put on the turret. They are the parts for the laser combat training device that are similar to the US Army MILES systems. Included is the laser that sends out the tank's "shot" and the device that fires the simulator for the cannon's report, flash and smoke. I put these on and added the cables that make them work using thin brass wire. Now, as I am depicting a tank that is loading live ammunition for live fire training, these devices probably would not be on a tank preparing to shoot rounds that go boom.

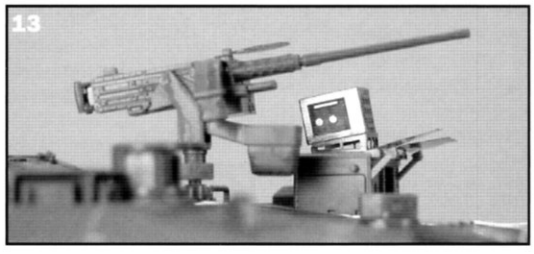
The only area that gave me trouble on the turret was the main gun. The holes for the mounting pins for the two gun halves are too big for the pins. When you hold the two gun halves together they can slip easily out of alignment. This resulted in a slightly off set fit and required some sanding. This might be a bit nit-picky, but that gun has a distinct taper and different curves with the bore evacuator. This fit problem is another odd one when you consider how



Paasche and dries nice and tight. The primer did not show any fit or seam problems, so it was a quick transition to the camouflage paint. Here, just follow the instructions from the kit, use the Tamiya paints and mix the brown as they recommend. I mixed up a large batch of the brown in one of Paasche's bottles and plugged it with tape after







well the kit is engineered. I have not yet built the Leopard 2A5 and wonder if that 120mm gun exhibits the same fit problem.

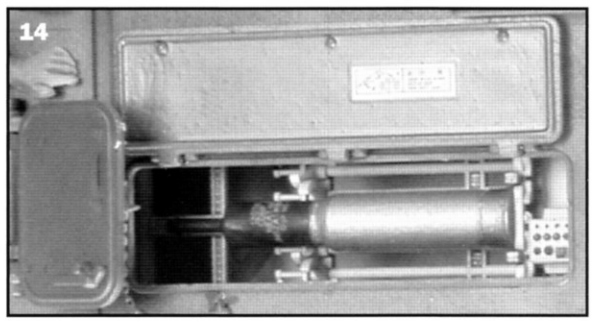
In finishing up the turret, I did not put any of the lenses in the vision blocks or fire control systems. After the model was painted, I used the clear pieces from the kit for the fire control system, as they can be installed through the turret. For the vision blocks and the commander's thermal viewer, I used Microscale's Micro Kristal Klear to make the glass.

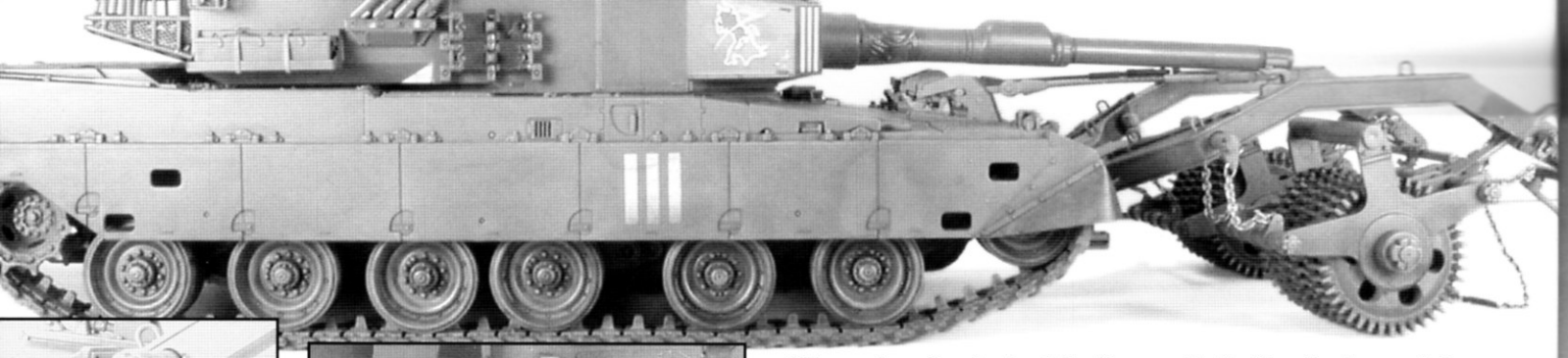
Japanese art

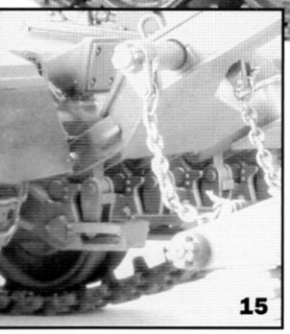
Painting the Type 90 is about as easy as building it. I primed the model using Floquil's railroad primer. I like this primer. It sprays well through my using it so I had some for touch ups later. After painting and drying, I sprayed the entire model with a few coats of Future Floor Wax to prepare for the decals. Between the standard tank kit decals and those in the mine roller kit, one can make a representative of just about any of the units in the JGSDF equipped with the Type 90. I chose to show one from 3 Company, 71st Tank Regiment of the 7th Division. I like the bull jumping off the island through the number 7. Note here that if you use the placards from the Eduard photo-etch set, you would cover the unit markings with the placards. Those placards (Eduard part 28) are for tactical exercise and usually sport a large number on a red or blue background. They are to announce kills, such as "This is tank Blue 13, I just shot tank Red 24." They look nice, but I left them off so the nice unit markings could be shown. The Tamiya decals go down fine using Micro Set and Sol. Once the decals were set, I shot another coat of Future to seal them in. Now I tried something new.

I have a friend who is a professional graphic artist. He always finishes his models with a slight sheen to them and the results are striking. He explained to me that in real life, the tank would have a flat finish, but in the scale world, the sheen causes more light to bounce off the model and allows one to better see the details and colors. So I tried this. I mixed Tamiya flat base with Future to make the semi-gloss I desired. One has to be careful with the Tamiya flat base. It is a paste that is intended to be thinned, it's easy to get too much and end up with a white film over your model. I practiced on something from the junk box before proceeding to spray the concoction on my Type 90. I think the results work. The model has that slight sheen but still gives the appearance of a flat painted military vehicle.

To weather my Type 90, I first gave a specific wash of very thinned black Tamiya flat black on all



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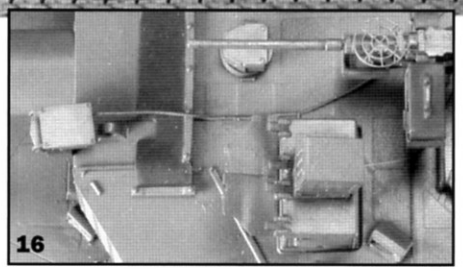
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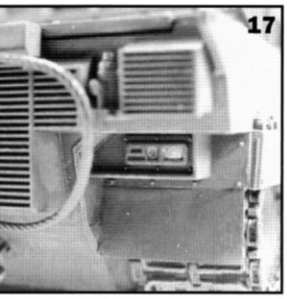
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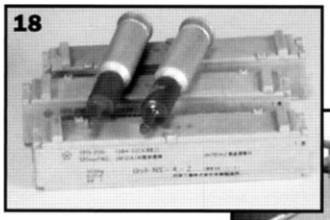
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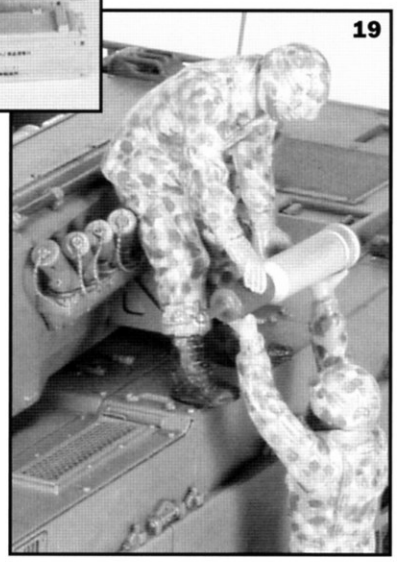
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filling and sanding. I primed the figures with the Floquil primer and then proceeded to paint the intricate camouflage. Now, pictures in *Panzer* magazine show what could be the scene from which Tamiya modeled the loading vignette and those guys were all wearing solid green coveralls. Tamiya chose to put these guys in their camouflaged tactical uniform. I used the Tamiya paints as recommended in the kit, so as not to hurt my head trying to figure out who has the best paints, although I did substitute a Vallejo brown for the Tamiya one. First I painted one of the figures in the buff color and then proceeded to put on the dots of the other colors. But this didn't look right. So I went back and tried using the light green as a base, then put on buff dots, then brown dots and finally the dark gray dots. This worked better. Once dried, I gave each figure a dark brown wash, then dry brushed it with a tan color to deaden the camouflage some and make it look more like cloth. I used Vallejo Dark Flesh paint (#927) for the faces and just used a darker flesh wash for recesses and lighter colors dry brushed on high places.

As mentioned earlier, the autoloader vignette includes four HEAT rounds and three shipping crates. What are missing are the black cardboard packing tubes that the rounds are placed in then set in the shipping crates. However, Tamiya includes decals for the tubes, they probably are not hard to fashion out of some kind of tubing from the scrap box. Tamiya also includes decals for APFSDS-T rounds and their packing materials, but does not include rounds or crates for these saboted tank killers.

Godzilla better watch out

When all done, the Tamiya Type 90 turns out to be one dandy looking model. The mine roller set is just too cool for school, so if you're into that combat engineering aspect of armor modeling, you can't pass this one up. Both the Eduard and Ordnance Models photo-etch sets add to the kit. You can use parts of both, but probably only need one. The nice, but difficult, bustle rack mesh in the Ordnance Models set tips that one in my favor. But, if you want the nifty laser training device gizmos, then you'll need the Eduard. The JGSDF has a great tank in the Type 90 to keep their favorite monster at bay. Now you can have one too to keep those plastic Godzillas from stomping across your display shelf.

—Fred Schwarz

the panel lines and other areas where I wanted highlighting of raised parts. Then I gave a burnt umber oil paint wash to the whole model. Once the washes dried, I dry brushed raised surfaces with Tamiya Panzer Yellow. Next, I sprayed the whole bottom, track, wheels and suspension with a mix of Tamiya Dark Earth and Flat Black. Once that dried, I dry brushed the bogie wheels, sprockets etc., with a Dark Earth-Panzer yellow mix, each pass with a bit more Panzer Yellow till just a light brushing of pure Panzer yellow was applied. I then gave the whole lower area a black wash. I washed the tracks with both black and burnt umber and then washed the pad areas of the inside of the tracks with a heavy black wash. The final touch for the tracks and sprockets was a light touching of a silver pencil. This same process was done on the mine roller apparatus. To finish the model, I used pastels on the lower portions and got lighter with the pastels as I went up the tank to the turret.

The crew and loaders

All three of the versions of this kit come with the same commander and gunner, while the one with the autoloader gives two additional figures, one handing up a HEAT round to another to place in the autoloader. These figures are OK. The moldings of the uniforms are good but the faces are just not up to those on the nicer after market resin figures. The figures have to have mold seams cleaned off, be put together and have some

15. The lower roller connecting gear. 16. The laser training devices. Don't forget to add cables, if you use these things. 17. Rear grill work and light detail. 18. Tamiya provides some convincing markings for the ammo crates. 19. Pass the ammo!

MMiR RECCE

Tamiya Type 90 Tank w/Ammo –Loading Crew Set. Kit number: 89564. Suggested retail price $61.00. Kit graciously provided by the manufacturer.

Eduard Model Accessories Type 90 Tank detail set. Set number 35 138. Suggested retail price $19.99. Kit graciously provided by the manufacturer.

Ordnance Models Type 90 Tank detail set. Kit number N-005. Retail price unavailable at press time. This kit was purchased through Accurate Armour in the UK.

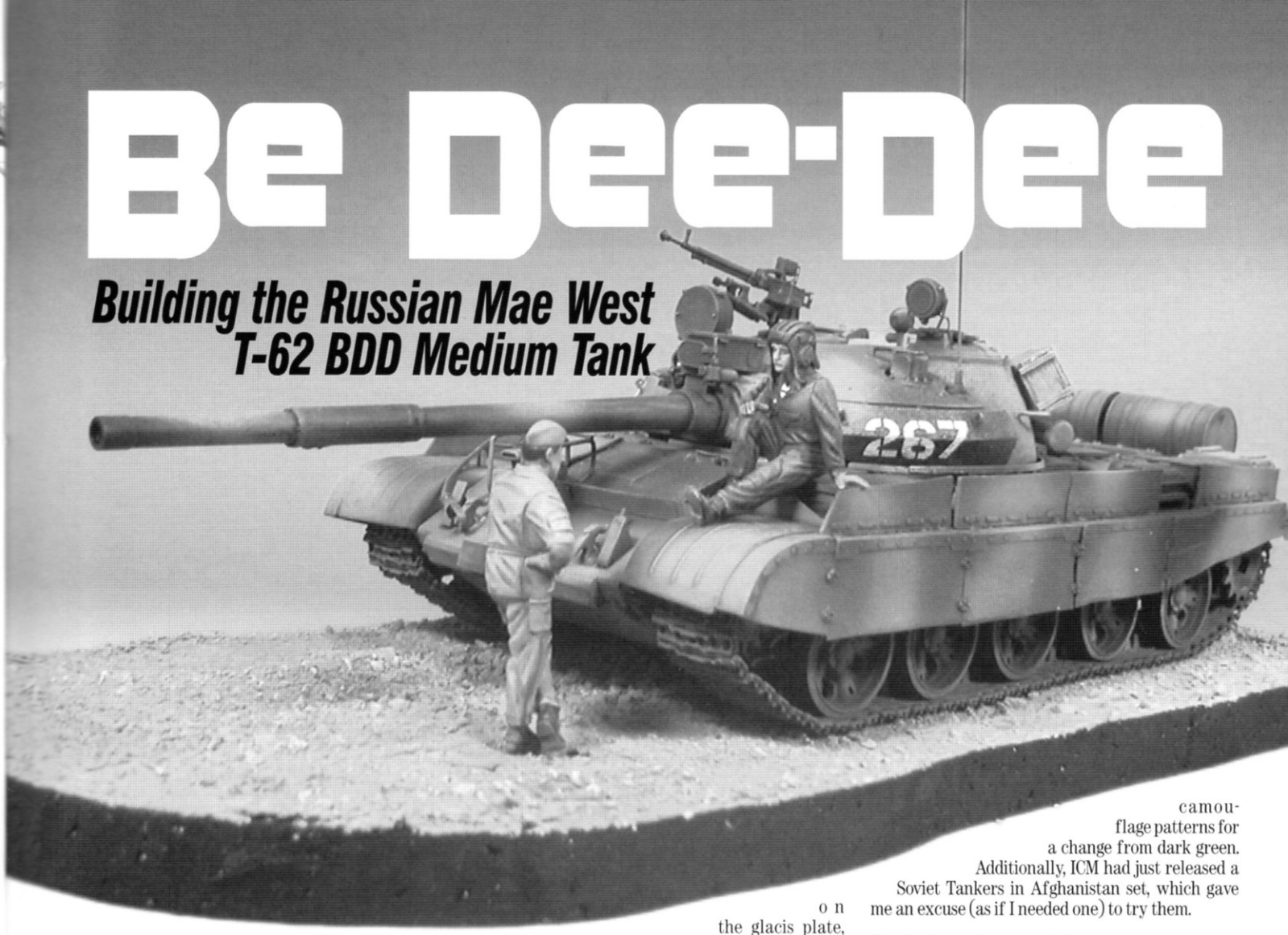
References

Panzer Magazine, Issues '95 #11, '95 #12, '98 #5.

Tamiya News, Number 13, J.G.S.D.F. Type 90 Main Battle Tank. Stuffed with great detail photos and sketches. One drawing of the mine roller.

Be Dee-Dee

Building the Russian Mae West T-62 BDD Medium Tank



I made the mistake of calling the editor of MMiR and volunteering to build any models he might have available. He mentioned he had a conversion kit of the T-62 BDD, which had been sitting around for a while. No one else was able to complete it due to a lack of information. Since Russian armor has been my thing for years, I said I would give it a try. A few weeks later, I got a box in the mail that had a partially built (or partially started) kit. The best part was that all the aftermarket stuff for the T-62 was in the box. That included several items from Chesapeake Design, Friulmodellismo track and the ever-important Aires update kit.

A very short version of a very long history

The T-62 was the end of the development of the T-54 series. The T-54 had begun production in 1946 and continued with the T-55 until 1979. Oddly enough, the T-62, the successor to the T-55, began production in 1962 but ended earlier than the T-55 in 1975. The most significant improvement of the T-62 over the T-55 was the new 115mm gun, which was in reaction to the U.S. adopting the 105mm gun on their M-60 tank.

The T-62 BDD was a special development brought on by the realities of the Afghanistan War. The Soviets had to counter the Afghanistan rebels use of the RPG-7 and similar anti-tank weapons and they developed an armor upgrade kit called BDD. They also used this same upgrade kit on the T-55. The kit consisted of an extra thick panel of armor on the glacis plate, two panels of "horse-shoe" armor around the front of the turret and side skirts made out of rubber. Apparently, there was also some kind of bottom armor to protect the tank from mine damage. The total package weighed around 3.9 tons. The designation for the T-62 BDD is a little confusing since the Russians apparently did not give the upgrade a distinct designator. For a while in the West, this version of the T-62 was called the T-62E. In my reference photographs of T-62s I found both early model and late model turrets with the BDD armor package. The most significant difference between the early and late model turret is the addition of the 12.7mm DSHKA anti-aircraft machine gun over the loader's hatch on the late model. This model was also referred to as the T-62A.

The kits involved

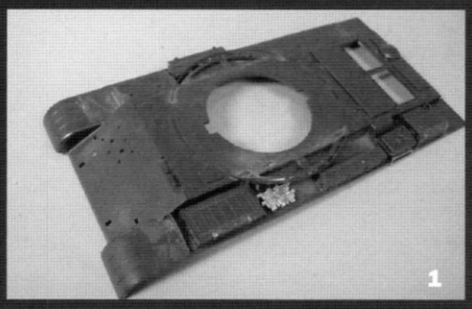
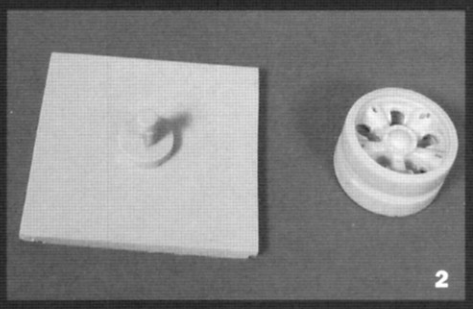
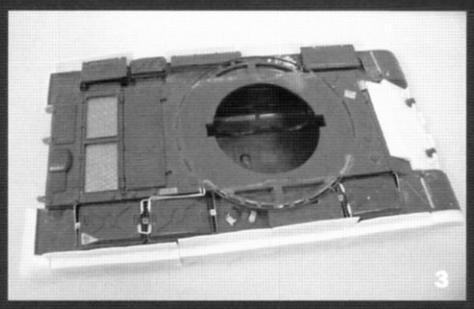
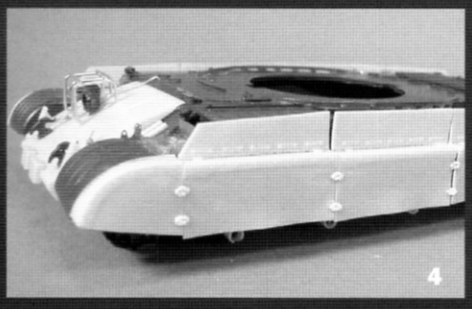
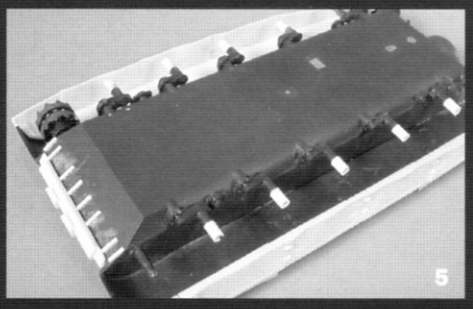
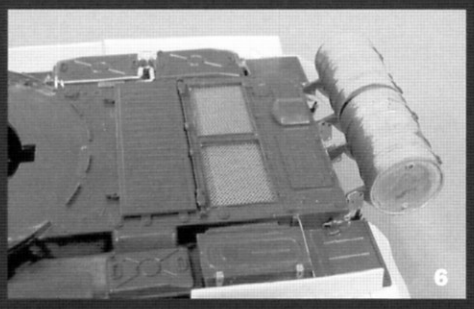
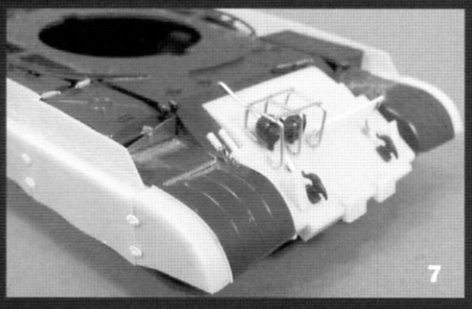
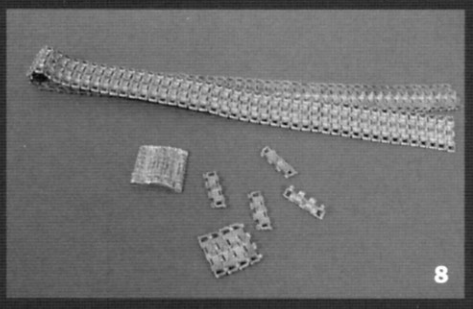
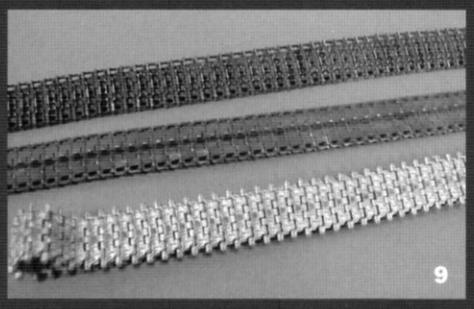
The Aires T-62 BDD upgrade kit is pretty complete. It consists of 28 resin parts, two sheets of heavy brass photo-etch and a very good set of instructions. The Tamiya kit of the T-62 is an easy to build, but flawed and out-dated kit. It is cast in the usual dark green plastic with rubber band tracks. The instructions are excellent and wire screen is also provided. The biggest criticisms I have about the Tamiya T-62 are the turret, hull, road wheels and track. Well, the hull isn't too bad, except for those stupid motorized holes in the bottom and rear. I built a T-62M several years ago and used pretty much the same after market stuff supplied with this set, except the Aires BDD conversion. So, I was not totally unfamiliar with this kit. I wanted to place this tank in Afghanistan, since this is where the armor was first used in combat, plus I like the camouflage patterns for a change from dark green. Additionally, ICM had just released a Soviet Tankers in Afghanistan set, which gave me an excuse (as if I needed one) to try them.

Replacing those wheels

The Chesapeake resin road wheels were cleaned up, then glued together. I believe these are the best T-62 road wheels available on the market today. The Tamiya road wheels are totally wrong and definitely need to be replaced. The Chesapeake road wheels do need some cleaning up and are a little difficult to mate and keep even. Chesapeake does provide a jig to help with this alignment. There are inserts provided to fit over the kit axles. Even though I knew the side skirts were going to be a problem, I decided to take a chance and leave the road wheels off until after painting. Actually, it proved to be pretty easy to put both the road wheels and track on, even with the skirts glued on.

The hull work

The motorization holes in the bottom of the hull were filled, along with the holes above the drive sprockets. I cut out a piece of Airwaves screen material to cover the engine grill. The two screens that come with the Aires photo-etch were fine, but mine had been damaged and needed replacing. I then glued the engine grill underneath the screen and glued the top and bottom hull halves together. I had to cut the rear deck, part C-19, down a little so the rear would sit right. I can't remember having this problem the first time I built this kit, but that was a long time ago. I filled the small gaps on the rear with Testor's white contour putty. I then glued on the front resin glacis plate supplied by Aires. I have read that this piece is not accurate. I noticed in the references that these glacis plate armor shields varied a lot in design and I actually found a photo of one that was almost identical.

1. The basic hull top with the fender supports removed and replaced with photo-etch. The left fender is almost complete with spare track and storage boxes with photo-etch hinges attached. 2. The kit road wheels have to be replaced. The Chesapeake road wheels are more accurate but require some cleaning up. The jig helps in alignment of the road wheels. 3. The Aires photo-etch screens are fine but mine had to be replaced because of damage. I used an Airwaves screen photo-etch sheet. The plumbing for the right fuel tanks can be seen here. I used clear tubing to simulate the insulation normally seen on them. 4. The skirts were the hardest part of the kit. They did not match up very well and a number of the pieces were broken. The clasps

The biggest part of building either the T-62 or the T-54/55 for me is putting on the various bits that are located along the top of the fenders. I have a number of reference photos I have taken of T-62M's at various locations, which really helped with the details. I first cut all the fender braces off and replaced them with photo-etch ones. I then proceeded to work around the fenders, attaching the various boxes, fender supports and the hardest of all, the plumbing for the fuel tanks on the right fender. I used brass wire for this. The Aires photo-etch set includes a number of small pieces that go along with the plumbing. I used most of the photo-etch pieces, but not all. For example, the molded-on handles on the fuel tanks look fine, while the photo-etch ones are flat.

Those damn skirts

I then glued the side skirt armor around the hull. These are not great castings and are very thin. I did the best I could to mate them up since they are supposed to be fastened by clasps that hook them all together. Unfortunately, the skirts had some gaps that I could not match up. The good news is photos of the real T-62 BDD's in Afghanistan often show broken clasps and the top pieces are almost always out of alignment. The problem was how to make these clasps look like they were hooked together. They are molded on the skirt with one half on each skirt. The trouble is, since the skirts don't match exactly, there is no way to attach them to each other. It would have made more sense to make these out of photo-etch. My solution was to cut them off and make new ones from very thin sheet styrene. I added the rivets to the clasps using my Historex punch and die set.

There is one trick for the forward pieces, RP11/17. You need to trim off a ridge, which runs underneath the fender, so they will sit flat. The rear pieces, RP6/12, flare out on the sides. I needed to heat them up with a hair dryer to get them to bend back to match the side skirts. The real ones also flare out quite a bit.

Other details

I debated whether to add the rear fuel tanks, but decided a T-62 without rear fuel tanks looked naked to me. Aires provides some nice mounts where the fuel tanks go, but not the actual tanks. I did find a couple of shots in Afghanistan with the fuel tanks mounted, so they did use them there. I assembled the kit tanks per the instructions, taking care to clean up all the seams. I glued the photo-etch mounts on the kit's mounting arms and they looked OK. I then glued the tanks on the rear of the vehicle. I replaced the kit's plastic unditching log with a wooden one. This is a wood dowel the same diameter as the kit's and it was roughed up with a razor saw and then stained. I added it after the tank was painted.

Moving around to the front, I made my own headlight guard out of brass wire. The Tamiya one is wrong and the photo-etch one is flat, instead of round. I added solder wire for the electrical cords for the headlights and tail marker lights.

Track work

I made up the Friulmodellismo track using their jig. Unfortunately, these are the old types that clamp together. I had used these in the past and never really liked them. They go together pretty fast but they do not stay together. The heavy tracks like these literally pull themselves apart from their own weight. The T-62 uses dead track so there is not a real problem since the track rests on top of the road wheels. But even so, you have to be very careful in handling them or they come apart. I crimped the links together on each side and measured them to be sure I had enough links. The trick is to make them as tight as possible because over time they will start to sag apart. I have found after a year or so you really have to go back and take an extra link or two out, which is a real pain. Once both runs were complete, I laid them aside for painting.

Those "horse-shoe" things

The Chesapeake Design's turret I had been sent was the T-62 early turret. Since I wanted to place the tank in Afghanistan I had to use the later turret with the 12.7mm DSHKA on it. For one reason, all the shots I had seen of T-62 BDD's in Afghanistan were the late model. I am sure they probably also had early models there, but the main reason I used it was because I like the cool looking 12.7mm AA machine gun. I used a late model turret supplied by Bill Miley of Chesapeake Model Designs. The bottom piece from the Tamiya kit turret needs to be

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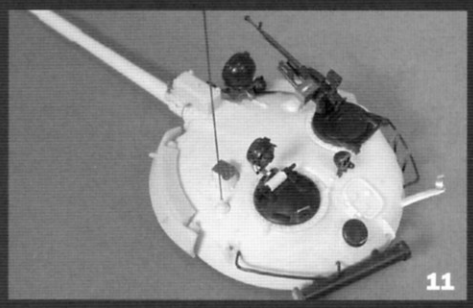
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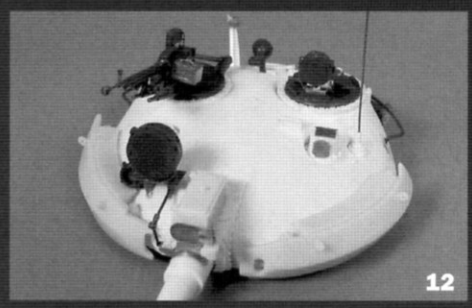
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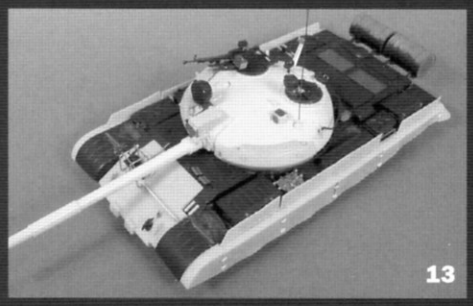
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had to be replaced with thin styrene bolts made with a Historex punch and die set. The rear skirt had to be heated to bend it. The front fenders had a ridge that had to be removed from the kit part to allow them to fit properly. 5. The mounting points for mine plows were also included in the conversion. The various motorized holes have also been filled. 6. The rear fuel tanks were straight from the kit. There were no photo-etch parts provided. They were cleaned up and checked for holes with gray primer paint. 7. The headlight guard had to be made from brass wire. The Tamiya guards are wrong and the Aires photo-etch ones are flat. The front glacis plate required some cleaning up before attaching the hull. 8. The Friulmodellismo tracks are the old clamp type. These are notorious for pulling apart from their own weight over time. The advantage is they are very fast to put together compared to the pin type now available. 9. The T-62 tracks are weathered with Blacken-it and rust paint, then cleaned with a scouring pad. 10. The Chesapeake turret utilizes the Tamiya kit bottom. 11, 12. The "horse-shoe" armor was designed for the Tamiya turret, so it did not fit without some cutting. The kit parts, such as the hatches, can clearly be seen here. The antenna was made from piano wire. The travel lock arm for the DSHKA had to be scratch built. The KTD-1 Laser Range finder was easy to install and has some nice photo-etch parts to enhance it. The main gun barrel went on without any cleanup, except where it entered the turret it had to be enlarged a little. 13, 14. The tank is ready for painting. The main searchlight that is coaxially mounted is a combination of photo-etch and kit parts. The 12.7mm DSHKA was from the kit with some photo-etch parts from another Eduard set. The handrails on the turret were taken from the kit. The holes for the two sets normally on the front are filled because the horseshoe armor covers where they would normally go. 15.The model was lightly sprayed with dark green, leaving the black undercoat to show in corners and recessed places. 16. The camouflage pattern was painted with dark yellow. The camouflaged schemes in Afghanistan varied a lot from hand painted to sprayed on.

installed on the casting and, after filling the gaps, I sanded it smooth. I first drilled out the machine gun and site holes, then glued on the two horseshoe shaped armor pieces on the front. Unfortunately, the Aires horseshoe armor pieces were made for the Tamiya turret, which, as I have mentioned, is incorrect; therefore they required some work to get them to fit the Chesapeake turret shape.

I continued with the different bits and pieces on the turret. I decided to close both hatches, so I just glued them in place. I glued the Chesapeake 115mm barrel on without any clean-up necessary. I used the photo-etch mount for the coaxially mounted searchlight, plus some of the kit parts. I also added a short piece of thin solder wire from this searchlight to the turret where a conduit runs with the wire. I then added the Aires KTD-1 Laser range finder over the barrel using the photo-etch parts that come with it. I had to fill the two holes for the handrails that are supposed to run around the front of the turret. These were removed because of the horseshoe armor. The rear ones were drilled out and I glued in the kit supplied plastic rails. In hindsight, I should have used brass wire, since the plastic ones broke several times. I glued the photo-etch piece to the lighted number board for the rear of the turret. I added the rest of the lights on the turret using solder wire for the electrical wire.

The 12.7mm DSHKA Antiaircraft machine gun was built using the Tamiya parts. I did have an old Eduard photo-etch set that I used for the ammunition box and rear sight. I drilled out the barrel and glued the whole thing on the turret. For some reason the photo-etch set did not have the machine gun travel lock (that is the thing that is sticking off the back of the turret), so I built one from scrap styrene and thin brass.

Just hanging around

I have built several kits from the Afghanistan war and was always wishing someone would come out with a Soviet tank crew of that period. Finally, ICM came through. At first I thought it was just another ICM figure set, which, honestly, have not been that great in the past. At least it is the right era. When I opened the box, I was pleasantly surprised at the quality of the figures. They are superbly cast and the detail is excellent. My first reaction was they reminded me of the Historex Napoleonic figures. They are molded in white plastic. The figures are broken down like most figure sets with legs, arms and heads separate. I decided to use two of the four figures for this kit and save the other two for a future project. The only thing I was not happy with was the tanker's helmet. It is a little on the large size. Another criticism I have of the figures is their poses. As I said, they are very relaxed, which is great, but none of them is suitable to put in a driver's or commander's hatch. This makes their use a little limited.

The base was made of Styrofoam from WoodLand Scenics. I cut it to shape using a hot wire and then gave it a coat of tile grout and Celluclay mixed with a mixture of acrylic paints to get a dirt color. I mixed in kitty litter and small-sized gravel. Once dry, I sprayed it with Polly Scale dirt and dry brushed with titanium white, yellow ochre and burnt umber oil paints.

Painting

I washed the whole tank with warm soapy water, which is always important, but with so much resin it is even more so. I then sprayed the tank and road wheels with Tamiya XF-1 flat black. This served both as a base coat and primer. I made some minor corrections, like removing glue globs and then resprayed with black. I then lightly sprayed the whole tank with Tamiya XF-27 black green. The camouflage was then added by spraying with Tamiya XF-59 desert yellow. I added decal numbers from a Verlinden dry transfer set of Soviet tank numbers. I then gave the whole tank a light spraying of Polly Scale 50/50 flat/gloss clear to seal the decals and to give the tank a slight sheen. After spot painting a few small items, I started the weathering by giving it a wash of very thin black oil paint. I then started my pin wash. This wash consisted of a very thin 50/50-black/burnt umber oil paint. I gave a small area a coat of thinner, then with a small brush dropped small amounts of wash in areas I wanted more definition, like around bolts and panel lines. I then dry brushed very lightly with titanium white, sap green and raw sienna oils.

The tracks were first soaked in A-West's "Blacken-It" for about five minutes. I have found that this does not blacken as much as rust, but that

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17. The crew and added base gives this vignette a look of a casual conversion. 18. The unditching log was made from a bass wood dowel, which was roughed up with a razor saw, then stained. The 12.7mm DSHKA machine gun wooden handles were painted with Vallejo wood stain. The small marker lamps were all painted with a drop of white paint. 19. The decals were from a dry transfer set. The vehicle has had its wash and dry brushing and the tracks added. 20. The ammunition boxes are from the excellent range of Armand P. Bayardi.

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is OK. I then gave it a light wash of Polly Scale rust. The final treatment was with a 50/50-black/burnt umber oil wash. Once everything was dry, I lightly scrubbed the tracks with one of those green kitchen pads to bring out the bare metal.

I added the road wheels, tracks and MV lenses (clear #159, #149) to the front headlight and the spotlight mounted with the coaxially mounted searchlight. Since MV does not make IR lights in a range of sizes, I made my own by giving the clear lenses a coat of clear gloss mixed with a little black paint. The last thing I did was spray around the sides with very thin Polly Scale dirt and added some ammunition boxes I got from an Armand P. Bayardi set.

What I ended up thinking

Although the Tamiya T-62 has its flaws, I have always loved the kit. Overall, I think the Aires upgrade was very well done. I was impressed with the photo-etch set that came with it. It was very comprehensive. I guess the only real complaint I have with their set is with the side skirt pieces. If they had provided the photo-etch clasps, it would have been great. Actually, when painted, they look pretty good. I have read criticisms of the horseshoe armor pieces being too small, but once again these appear to come in different sizes. This is not a conversion I would recommend to a novice, but if you have worked with resin before it is not that difficult.

—Jim Hensley

MMiR RECCE

Tamiya T-62A. Kit number 35108. Retail price $15.00

Aires T-62 BDD conversion set. Kit number A3005. Suggested retail price $31.99. Kit graciously provided by the manufacturer.

Chesapeake Model Designs T-62M turret and gun barrel. Kit number CMD06. Suggested retail price $14.95.

Chesapeake T-55/62 Starfish Road wheels. Kit number CMD21. Suggested retail price $20.00. Both kits graciously provided by the manufacturer.

Friulmodellismo T-54/55/62 Russian and T-59/69 Chinese tracks. Kit number ATL-01. Suggested retail price $39.95.

ICM Soviet Tank Crew 1979-1988. Kit number IC35281. Retail price $8.98.

Armand P. Bayardi Empty Crates with Tops. Kit number M35/101. Retail price $7.50.

Hudson & Allen Studio Russian Tow Cable. Kit number 9710. Retail price $7.98.

References

T-54 T-55 T-62, Zaloga, Steven J. ,Concord Publications Company, Hong Kong, 1992. ISBN: 962-361-913-8. Big Steve has a good description and photos of the T-62 BDD in this book.

Armor of the Afghanistan War, Zaloga, Luczak & Beldam, Concord Publications Company, Hong Kong, 1992. ISBN: 962-361-909-X. One of my favorites for photos from the Afghanistan War showing lots of shots of what the equipment looked like in combat conditions.

Soviet/Russian Armor and Artillery Design Practices: 1945 to Present, Zaloga, Steve. Hull, Andrew & Markov, David Darlington Productions Inc, Darlington, MD 1999. ISBN: 1-892848-01-5.

Yeah, Baby, Yeah!

The Austin Motor Company was formed in 1906 near Birmingham, England and produced mainly cars. As the Second World War progressed, general service lorries required good cross-country performance and four wheel drive vehicles were in high demand.

Austin Motors was one of many producers of four-wheel drive trucks and built 12,280 vehicles of the Model K5. After the Bedford, this was the most numerous British 4 X 4. These trucks were widely used, particularly with units supporting armored formations.

All British designed trucks with transfer cases were noisy, but the winner was undoubtedly the Austin K5, affectionately called "The Screamer" by the troops. It could be driven by the rear wheels or by all four wheels via a 4-speed gearbox and a 2-speed transfer box.

There were several body variants, such as workshop, wireless, office and portee versions produced. The majority was the General Service cargo body. These were produced from 1941 until 1945 with very little design change, except that later models had a detachable cab roof to reduce the vehicle's height for shipping purposes. Many vehicles remained in service with both Regular and Territorial Army units until the late 1950's.

The General Service cargo bodies were mainly made of steel, although some wooden bodies were also built. The wooden versions were very different from most contemporary designs in that the side planking was vertical instead of the usual horizontal planking seen on most other types. There was a tubular steel frame for the canvas tilt and a cargo guard that prevented cargo from sliding forward and injuring the cab's occupants. The tubular tilt frame could be fixed in either a high or a low position on the bodywork. To facilitate this, there were two rows of hooks along the body sides to adjust and secure the tilt ropes.

The spare wheel and stowage box for chains and so on were carried behind the cab. The framework of the spare carrier allowed a ladder-like ramp to be formed for raising and lowering the heavy spare wheel.

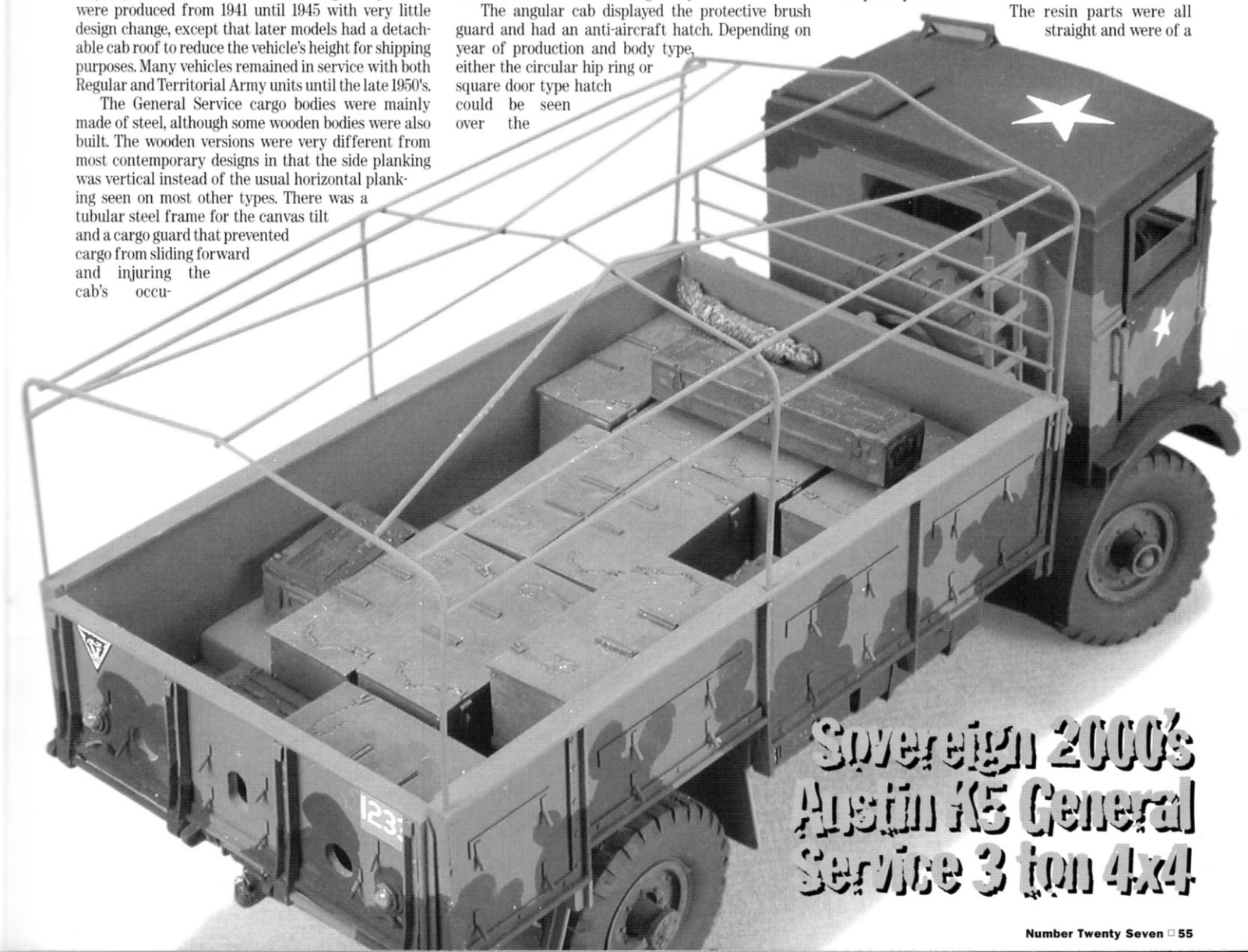
The chassis was the sturdy ladder-frame chassis with mid-mounted transfer box; semi elliptical springs with hydraulic shock absorbers and servo assisted hydraulic brakes. Attached to the chassis were two 16-gallon petrol tanks giving a 250-mile radius of operation depending on load and speed. Below the cargo body were the usual P.O.W. (Petrol, oil, water) carrier. These were simple metal frames with a folding bar and secured with a padlock. Stowage lockers for miscellaneous equipment were also fixed here and their exact location varied below the cargo body.

The angular cab displayed the protective brush guard and had an anti-aircraft hatch. Depending on year of production and body type, either the circular hip ring or square door type hatch could be seen over the assistant driver's seat. There were three cup handles on the front of the cab for lifting the cab top and two flap-like air vents. Two access panels with springs and handles could be seen on either side of the radiator grill. A foldable starting handle occupied a prominent position just below the grill and was off center to the right.

The turn indicator or trafficator was located on the one side, either near the door hinge or above the grab rail and tool stowage area. The gas-warning panel was seen on many vehicles, along with canvas radiator covers.

Sovereign 2000's kit of the Austin K5 was undoubtedly designed for ease of assembly, as there were fewer than a hundred parts in the resin, white metal and wire kit. The kit arrived in a stout box with a cover sleeve of blue and gold lettering reminiscent of a huge box of Cadbury's Chocolates. On this sleeve was a photograph of a nicely completed truck with markings and weathering. The kit's parts were well protected by bubble wrap and peanuts.

The resin parts were all straight and were of a



Sovereign 2000's Austin K5 General Service 3 ton 4x4

soft cream colored resin, which was easy to clean and file. There were a few bubbles but most of them failed to reach the surface and those that did required a little filling. Three loops of various gauges of wire were provided for construction of the tilt and various other assemblies.

White metal parts were well cast and came in a plastic bag. Clear plastic was provided for the glazing of the cab windows and windshield. There were no decals or photo-etch frets provided.

The instructions consisted of four pages with eight exploded view pictures of a kit under construction. Arrows indicated the attachment sites of the various parts. There were also a few magnified shots showing close up detail of parts placement and detailing of small fixtures. One odd point was that the first two pictures showed parts with the pouring plugs still attached and this could cause some confusion, especially with novice builders.

Sovereign's instructions began with an offer for further information or solutions to any problems by contacting them at their address or by E-mail. Two paragraphs warned about safety and precautions with resin sanding, assembly and gluing.

The assembly of the kit was straightforward and simple. The parts were washed to remove the mold release agent and then cleaned up with a sharp hobby knife and small file. Plugs were cut off with a saw and any mold lines were sanded off. The few bubbles observed were filled with cyanoacrylate glue and resin dust from sanded parts or Elmer's white glue, depending on the size of the hole.

Chassis assembly

The first picture required the attachment of the white metal leaf springs to the chassis. There were subtle differences between the front and rear springs so careful observation was required for the selection and placement of the correct pairs. The leaf springs came with the appropriate U-bolts and strapping. The plugs were removed from the front and rear axle differentials and these were added to the springs. A few minor bubbles were filled and sanded at this stage. The transfer case was added next and the appropriate propeller shafts were fitted and secured. These shafts were well detailed with universal and slip joints. The white metal muffler and track rod or tie rod for steering were added after aligning the front wheels. The four brake drums were cleaned up with the file and then test fitted before gluing to the axles. Note that the front and rear drums were different, so test fitting was essential before cyanoacrylate glue was added. These drums must be kept vertical and parallel with each other, otherwise the wheels and hubs will not seat properly and evenly when attached, or the tie rod will not meet its brackets on the brake drum backs. Sovereign provided a ball and socket joint for the front wheels so it was easy to turn the front wheels. In my opinion, vehicles look much better with the wheels turned at an angle instead of the usual straight ahead tracking. The drum assembly for the front right wheel has a small groove for the steering arm, so this part must face up and be properly positioned for the steering arm placement. A few of the wheel nuts suffered from air bubble disease (blowout) and were replaced by hexagonal slices cut from a styrene rod.

Engine assembly

The detailed 6-cylinder engine was added next. All resin plugs were removed from the engine and the fan and fanbelt assembly added. This assembly was sanded down to remove the backing resin film until only the fanbelt and fan remained. The white metal exhaust manifold came next. The instructions suggest that the ports are drilled out to allow for close fitting but it was easier to cut off and reduce the six outlets. This was essential, as the cab will not fit if the exhaust manifold is not snug against the engine. A short length of wire was cut and added from the manifold to the muffler. A short axle or propeller shaft was added from the engine to the transfer case. This required a little flexing and was simple, as the resin was soft and not brittle. The whole axle was bent and inserted into the two holes without breaking or gluing any previously attached parts.

The four hydraulic shock absorbers were cleaned up and attached to the chassis. Gentle filing got rid of any mold lines present in these metal parts. The oil filter was added to the driver's side of the chassis and fitted into an angled holder, the top of the filter was seen in two of the instruction pictures, but it can easily be missed as it was not shown in the assembly scheme with the arrows pointing to its location. Another pair of items that was difficult to spot on the plans was the rear spring bumper blocks. These were attached to the chassis just above the rear axle and limited the upward movement of the rear leaf springs. The rear-towing hook was cast in metal and was attached after centering on the leaf-spring drawbar. The front chassis bar was cleaned up and positioned. The top edges were kept even and then adhesive was applied.

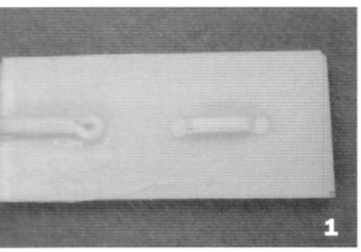
Cab assembly

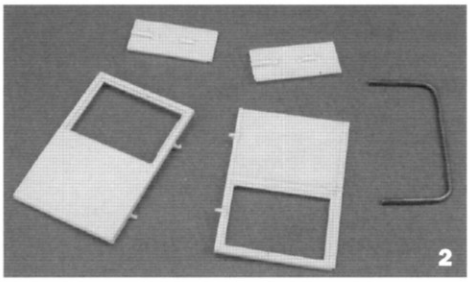
The instructions require the front of the cab, the engine cover and the cab floor to be assembled before removing resin panels to allow the engine to fit. Once these three parts were assembled, a fine saw was used to cut out sections in the firewall and floor so that the cab could seat properly on the chassis. A file was used to even up the edges and the cab was test fitted to the chassis. The resin film covering the windshield and rear view window was cut out and cleaned with a fine file. The seats were positioned a little forward, allowing space for the rail at the back of the cab. There were a few differences between the kit and the references listed in the area of the cab's interior. The main gear lever is shown where the references state that the starter knob should be located and also no auxiliary gear lever was provided. The prominent air filter in the cab was also deleted. Gear levers were added from styrene rod, the levers blocked the cab top when it was test fitted so small notches were cut in the resin to allow them to fit. The air filter was fashioned from styrene and an accelerator pedal was also made from styrene rod and strip and secured to the floor. The steering wheel was cast in metal, while the steering column was cast in resin. These parts appeared fine after assembly, however, over time and with summer temperatures the steering column sagged with the weight of the steering wheel until it touched the seat. The resin column was replaced with plastic rod that had a metal core in it and the problem was fixed. The handbrake came with a nicely cast garter or boot and was fixed to the cab's floor. Test fitting the cab to the chassis is essential as each stage progresses, otherwise parts may have to be removed or sanded down for a good fit. A little nipping and tucking was required to get good seating to secure the cab to the chassis.

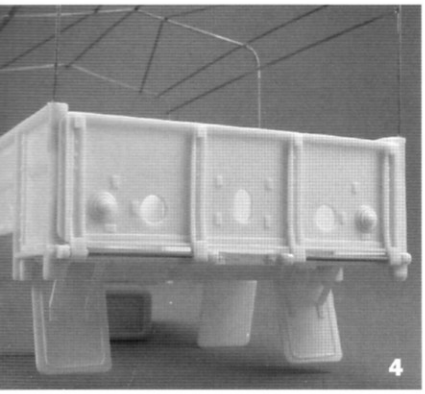
The rectangular anti aircraft hatch for the cab was positioned and glued in place on the cab's roof over the assistant driver's seat. A grab rail was made from styrene rod and thin strips from an aluminum can. This rail also functioned as a bumper for the hatch and as a mount for an anti-aircraft Bren gun. Few reference pictures were seen with the gun or gun mount in place on the roof.

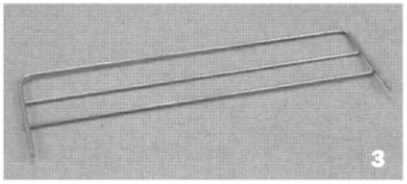
The steering assembly was all cast in metal and consisted of the steering box, drop arm, drag link and steering arm on the right front wheel. After fixing the cab to the chassis and the front wheels were secured, the steering assembly was cleaned of any mold lines.

At this point, the radiator housing was assembled

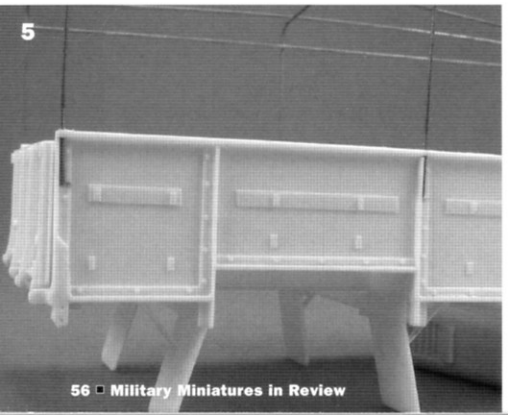


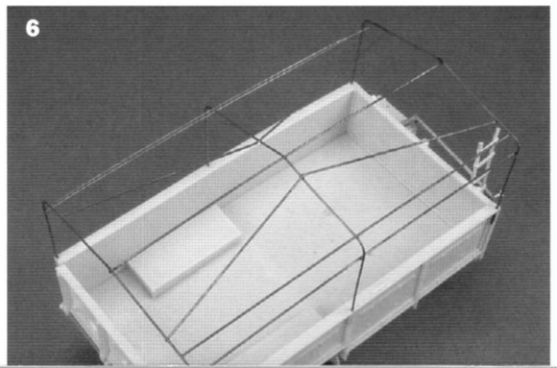


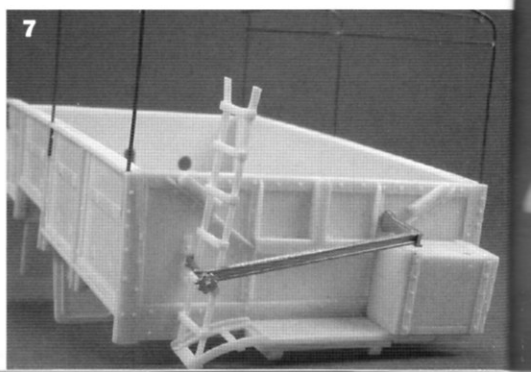




1. Engine access panel with detailed spring and handle. 2. Detailed doors, engine panels and brush guard from copper wire. 3. Piano wire cab-guard to prevent cargo from sliding into the cab. 4. Rear view of truck bed showing tailboard with cut-outs which acted as foot holds. Nice details with hinges, tail lights, mudflaps & supports visible. 5. Bed of truck showing mudflaps, position of tilt hoops. Well detailed side boards, before the addition of the tilt hooks. 6. View of tilt frame made from piano wire. Rods fit over and under the hoops in the center and ends respectively. 7. Spare wheel assembly and stowage box. White metal and resin parts throughout.





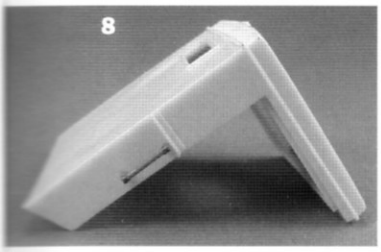


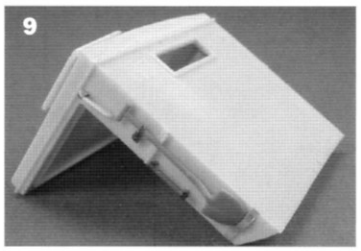
and positioned on the front of the cab. The two optional radiator access panels were nicely detailed with spring hooks and handles. Leaving these off allows the engine detail to be seen. The steering box was then attached to the firewall and secured in its holder on the chassis. The drop arm, drag link and steering arm were then attached and the steering assembly completed. The brush guard was bent from wire and attached to the front of the cab after the model was painted. Other small fragile items were attached after painting, as there was less chance of them breaking off.

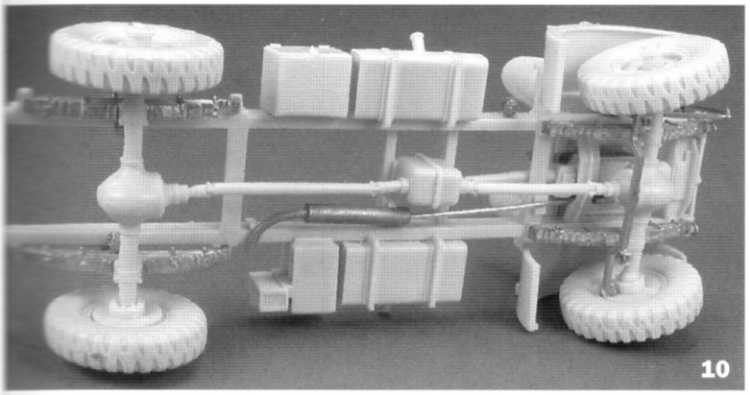
The doors for the cab were attached after final painting. Two window hand cranks were made from styrene and added to the inside of the doors. The thin sheet of acetate provided was cut to provide side window glazing and the front windshields. These were attached with white glue.

Steel cargo body

Sovereign provided the steel body, which came in five resin parts. All plugs and flash were carefully removed with a saw and sanded. The casting was very well done and there was no warping on the long body sides. There was a small section where the mold either tore or shifted and resulted in a raised lip on one edge. This was easily sanded down and required a little attention. Detail included cut outs in the tailboard or tailgate which acted as steps, attachment points for the double layer of tilt hooks, rubbing strips, reflectors, capping and metal framing. Once the tailgate or tailboard was in position, two pieces of rod were cut and attached to represent the rear tailboard hinges. The tilt tie- down hooks were formed from wire and attached to the cargo body. The supplied wire was first cut into four-inch lengths and rolled on a glass surface with a heavy block. This was to straighten out the pieces. Equal lengths of wire were cut and then applied to the body with glue utilizing a pair of tweezers. Over 40 lengths were prepared, as there were two rows to fill, plus many were lost due to the usual phenomenon of tweezer launch. Two hooks on the tailgate were horizontal so longer hooks were needed in these instances. This was done when the model was nearly complete and thus would have required less handling as these hooks broke off easily. This assembly was probably the most fastidious and time-consuming part of the entire construction process but turned out to be fun nevertheless.







Spare wheel assembly

This assembly was composed of metal and resin. The spare wheel sits on an angled tray, which is attached to the chassis. A stowage box with cast padlock was located on the left side and contained tools and snow chains and so on. The right side of the assembly consisted of a ladder arrangement, which was secured by a hinged bar that angled down and a screw type locking mechanism. The resin film was cut out from between the ladder's rungs with a sharp knife and the assembly was attached as shown in the instructions. The wheel nuts were cut off from the rim of the spare wheel and holes drilled with a small drill bit.

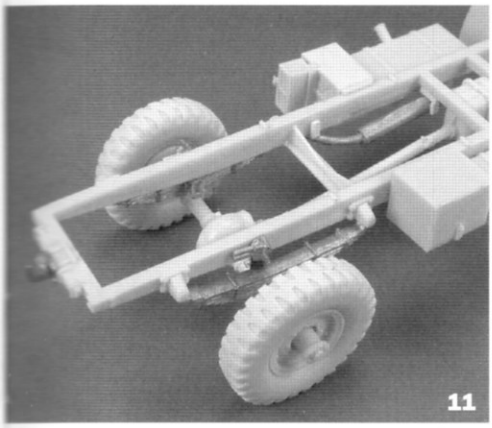
Tilt frame

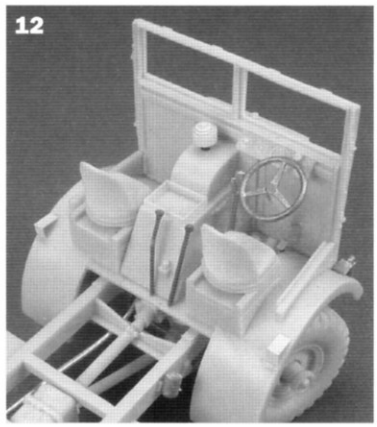
British vehicles had the typical tubular tilt frame, which consisted of three transverse hoops and seven longitudinal rails. The longitudinal rails were flattened on the ends and bolted to the transverse hoops. Wire was provided for the construction of the tilt frame but piano wire was used to replace it for strength purposes and to speed up construction. Six holes were drilled into the cargo body capping for the attachment of the transverse hoops. Sovereign provided a solid capping rail, however, references show a space between the rail and body. After taking a few measurements, a small jig was constructed with wood and finishing nails and the piano wire was bent at the appropriate points with a pair of pliers. Five long rails were cut for the center and two on each side, while two longer rails were cut and bent with a slight angle. These two angled rails were located on either side of the center rail. It should be noted that the longitudinal rails tuck under the two end transverse hoops, while they pass over the center transverse hoop. A smaller frame with two horizontal rods was also assembled from piano wire. This prevented any cargo in the tray from damaging the cab or injuring the crew if it slid forward during a sudden stop. Cyanoacrylate glue was used for the wire assembly, although soldering would provide a much stronger tilt frame, if one had the necessary soldering skills and equipment.

Final assembly

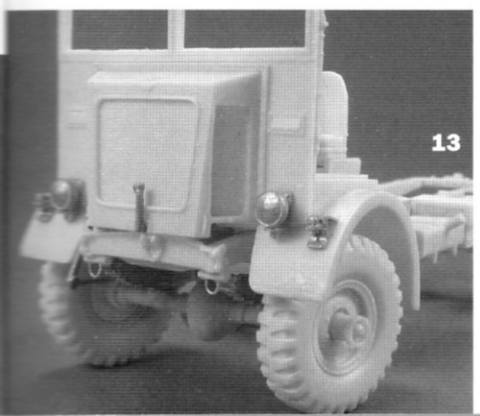
Mudguards were attached to the bottom of the cargo tray and styrene strips from the parts box were used as mudflap stays. Eight pieces were cut evenly and secured the mudflaps at a slight angle. The petrol tanks, P.O.W carrier, stowage box and oilcan were secured to the chassis. The instructions show the P.O.W carrier and stowage locker reversed when compared to references but it should be noted that these locations varied. These parts were nicely detailed with petrol caps, support brackets and padlocks.

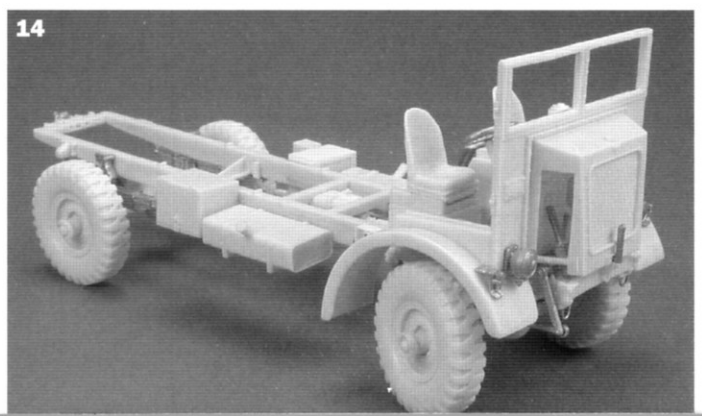
A spade was taken from the parts box and added to the side of the cab. A holder was formed from a thin aluminum strip cut from a soda can and the strap was made from paper. The buckle was also procured from the parts box. Two grab handles were made from styrene rod and attached to the sides of the cab. The trafficator was scratch built from aluminum and styrene and placed just above the spade. The headlights and convoy lights were cast in white metal and required a little cleanup with the file. Holes were drilled in these parts and fine wire was added to represent the electrical connections usually seen in the references. A hole was drilled for the starter crank handle and it was glued in location. Two small steps were fashioned from styrene and placed on the fenders or wings just behind the cab's doors. These assisted the crew with entry and exit from the cab. The brush guard was

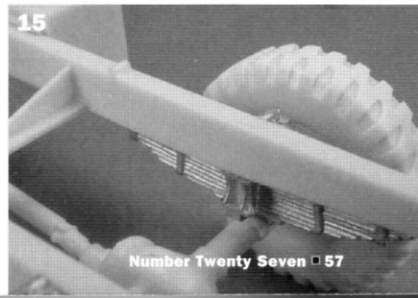


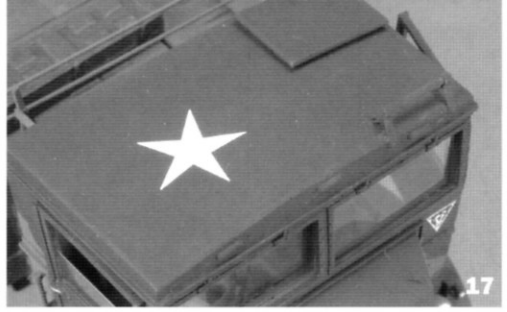


8. Grab rail on offside of cab, parts were well cast but with a few bubbles. 9. Rear of cab showing added spade, grab handle and trafficator. Straps and buckles were cobbled up from paper and plastic. 10. Underside view of chassis with petrol tanks and stowage bins in position. Front wheels were turned to angle. Springs, exhaust, tie-rod and shocks were cast in white metal. 11. View showing white metal springs and leaf sprung drawbar at the rear. Note P.O.W. Carrier, stowage boxes and petrol tanks. 12. air filter and gears added from plastic rod and strips. Foot pedals, driver's steps and detailed dashboard are visible. 13. View showing tow rings and light cables added. Engine crank handle, headlamps, sidelamps and steering arrangement were cast in white metal. 14. Steering box, drop arm, drag link and linkages can be seen in the engine area before addition of the access panel. 15. Note location of axle bumper block which was difficult to see on the instructions. They are located above the axle on the underside of the chassis.

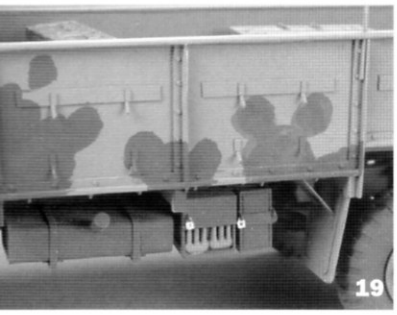


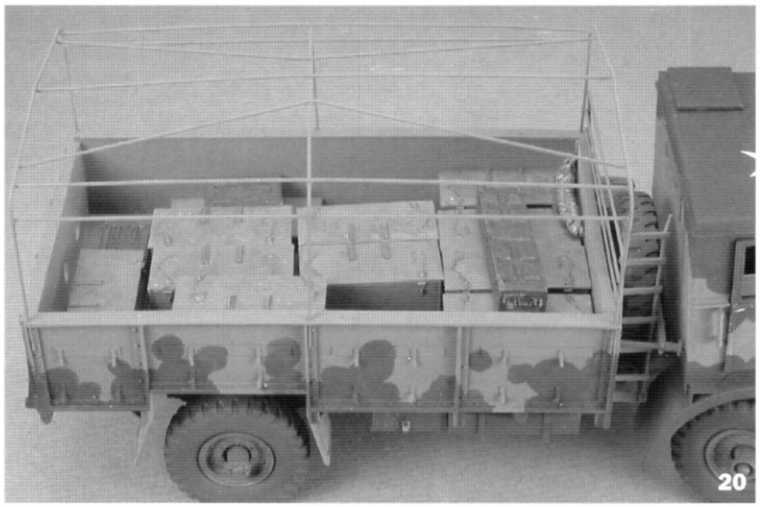


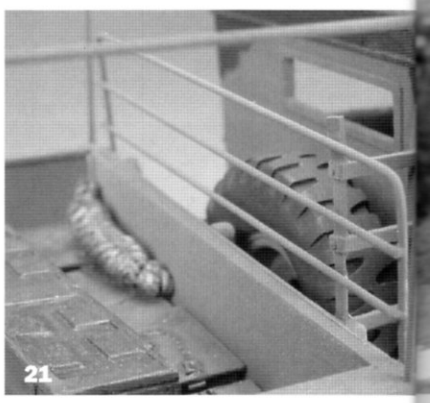


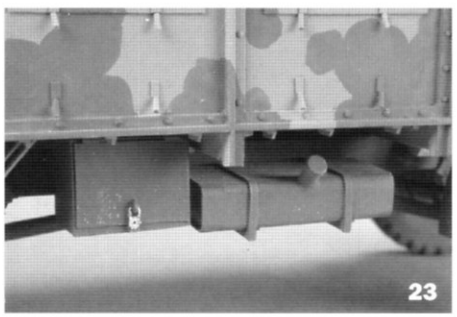


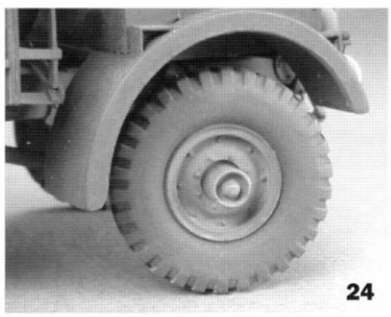
16. Black Mickey Mouse camouflage over green. Note added grab rail on roof and side window partly open. Markings were for the 79th armoured division. 17. Cab top with Allied star on black background. Note 3 cab cup holder handles for tilting the cab over and grab rail for the occupant of the hatch. 18. View showing added tools and cargo equipment. note spare wheel and cab-guard in position. British ammo boxes were brown in colour. 19. Stowage below chassis, tilt hooks and Mickey Mouse shadows. Detailed padlocks were painted in brass color. Water cans were painted in a different shade of green. 20. Completed tilt frame and cargo in bed of truck. 21. Spare wheel with loading ladder arrangement and metal cab-guard. Holes were drilled in the capping to insert the cargo tilt hoops. 22. White oval painted on differential. Note detailed tailboard and tilt hooks in position. The leaf sprung drawbar was weathered with a graphite pencil. 23. Petrol tank, stowage locker with brass lock and tilt hooks in position. 24. front wheel turned at an angle. Driver step added to fender. Wire added to side lamps and can be seen above the bridging disc.











formed from wire and attached to the front where it protected the radiator. Two tow rings were formed around a small dowel, cut to even lengths and then secured to the spring shackles on the front of the truck.

Painting

The chassis was painted flat black with a little gray added in and the rest of the truck was painted in Humbrol khaki. The tires were painted black and given a wash of Testor's rubber to make them look like real tires. Mickey Mouse camouflage patterns were painted black and a medium bristle brush was used to outline the hard edges of the oval patterns. Lights were picked out in white and red as necessary and coated with a gloss varnish. The rear differential was also painted white as an aid in night vision. The entire vehicle was coated with Testor's Dullcote and left to dry before weathering. A graphite pencil was used to portray scrapes and scratches on the steel body and a light dusting of pastels provided the necessary grime. Cargo items came from the parts box and were painted in Humbrol brown bess to match the color of British equipment and not shades of green, as is usually seen on models. Decals came from Archer Fine Transfers and Accurate Armour and portrayed a vehicle from the 79th Armoured Division, 5th Assault Regiment. The bridging disc was cut from styrene, painted yellow and the weight number was painted on in black.

Finally the windows were added on and other small items were fixed in position.

Conclusion

This kit was a lot of fun to build and was assembled in record time. Sovereign 2000 certainly catered for ease of assembly. Engineering and detail were good, even down to the Austin insignia on the bonnet, and overall the kit looked like the real deal. Small air bubbles were visible only after painting and were easily filled. A photo etched fret and decals would have been nice but were probably omitted to keep costs down. These could have included: wipers, gas detection panel, tilt hooks, rear view mirrors and grab handles. Anyway, the required parts were easily cobbled up or stolen from the ubiquitous parts box. I would build another one and scratch build the cargo bed to display the wooden version or maybe Sovereign 2000 has that version or another body type already planned for the future. If not, how about a Ford WOT6, Albion FT11, Thornycroft Nubian, Karrier K6 or some other exotic British lorry for those of us who like those weird ugly trucks. Come on Sovereign make us randy.

—Carlos D'Arcy

MMiR RECCE

Sovereign 2000 Austin K5 General Service 3 ton 4x4 Truck. Kit number KV 011. Kit graciously provided by the manufacturer. Suggested retail price £47.00.

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Historic Military Vehicles Directory, B. Vanderveen, Plaistow Press Ltd., GB, 1989. ISBN 0900913576.

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Bellona Military Vehicle Data - No. 8

Tankette - Vol. 14 No. 6

Personal photographs of VSV 622 (L6162923) in Normandy 1994.

Little Jewel

Japanese Tanks Pt. 2

A Riveting Resin Cutie From Japan

The Japanese began their tank development at the end of WWI. Although they acquired a few Whippet and one Mark IV tank from the British and a few French FT-17s, they wanted to develop their own tank program. Although the large bulk of Japanese armor produced was light and medium, they originally started with a heavy tank design. The lighter tanks were to follow as the commitment in China increased. The first effort at a tank design was called "Prototype No. 1"(very original), which was completed and started testing in February 1927. Later it actually went into production as the Type 91 heavy tank, but only a few were built. The experience gained from Prototype No. 1 was used on the second effort, "Prototype No. 2"(it just keeps getting better). This second prototype used some of the same components as No. 1, but was smaller. Prototype No. 2 went on to be produced as the Type 89 Medium Tank. This was considered to be the first true Japanese tank. The Japanese did buy a British Vickers Mark C prototype in 1927. It is not clear how much of that design was used for the Type 89, although I am sure some of it was. The Type 89 series was called 'Yi-Go,' which is Japanese for "First Car"or first tank to be developed and produced. Apparently Prototype No 1 did not count for some reason.

The first Type 89 model, seen in 1929, was a 9.8-ton version. Later modifications upped that to 11.8 tons and this model was called the Type 89 'Ko' or Type 89A. The two words 'Ko' and 'Otsu' are actually the first and second letters in the Kanji alphabet therefore, they represent A = 'Ko' and B = 'Otsu.' The Type 89A was powered by a Daimler gasoline modified airplane engine with 100 hp. Mitsubishi first produced it in 1931, but later other manufacturers also joined in. Through experience gained in cold weather in Manchuria it was decided that an improved version of the Type 89 was needed. The most significant item replaced was the engine. This was changed to a straight 6-cylinder diesel engine, since the gasoline engine was hard to start on those cold Chinese mornings—not to mention the slight problem of catching fire. This second model was called the 'Otsu' or B model.

The main armament for the Type 89 was the Type 90 57mm gun, which was located in the forward mounted turret. Additionally, two Type 91 6.5mm machineguns were mounted, with one in the rear of the turret and the other in the forward hull, next to the driver. On the 'Ko', the bow machine gun was mounted on the right and in the 'Otsu' it was mounted on the left. Probably one of the most unusual features of this tank was the main entrance to the hull, which was on the front. There was also the usual hatch in the turret.

Only 278 Type 89As were produced and 126 Type 89Bs. The Type 89 was used extensively in the early years in China. Apparently, they were very successful, reliable and liked by their crews. A few were also used in the Pacific war, mainly in the Philippines, although they were pretty obsolete by the time the war started with the U.S.

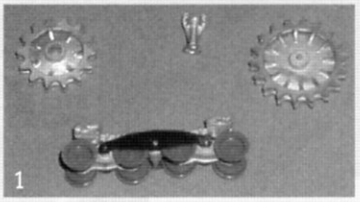
According to Trevor Larkum and Allan Kelly's unpublished book *Preserved Japanese Tanks*, it appears that only three Type 89s have survived until today. One is a Type 89A, which is on Bouganville Island. The other two are Type 89Bs, with one at Aberdeen Proving Grounds, Maryland and the other at the Ground Self-Defense Force Ordnance School Museum, Tsuchiura, Japan. None of them is in great shape. Even the Type 89B in Japan, which was rebuilt at some point, appears the worse for wear now. I used the Type 89B at Aberdeen for reference, which is readily available to me for most of my details when building my model.

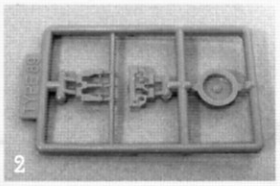
The GUM-KA kit

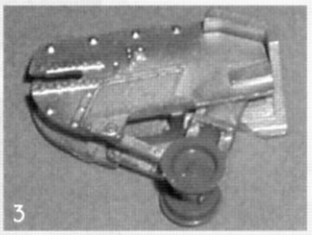
This is one kit I have waited a long time for. I have been very interested in Japanese armor from the very beginning. The Type 89 is such an ugly duckling and at the same time such an unusual looking tank, I just couldn't resist it. News on the web about this kit was around for about a year, including photos of the prototype under construction. When I finally got the kit and opened it, I was a little apprehensive because of the cost, roughly $160 USD, but also because the prototype photos did not look all that great. Fortunately, I was pleasantly surprised. The kit is one of the best I have seen in the resin market. The kit is a true multi-media kit, consisting of 12 buff colored resin parts, four photo-etch sheets (two in brass and two in steel), 75 white metal parts, a decal sheet, a half resin figure, and four Grandt Line rivet head sprues. However, the very best part is the tracks, which are 160 x 2-piece injected plastic sprues made by ModelKasten. The instructions are completely in Japanese, but the illustrations are very complete. In spite of this, they do require careful studying before proceeding to each step.

I don't read Japanese therefore...

I don't usually follow directions very closely, but this kit is an exception. I decided from the start, after looking at the instructions, that I would probably follow them as closely as possible. The kit is very complicated, with a number of different materials involved in construction. Therefore, I felt that it might be dangerous to deviate from the instructions too much. After completing the kit, I feel I was fully justified and probably could not have come up with a better method of assembly. Unlike most resin kits I have built, I believe the guys at GUM-KA have actually built this little guy using their own instructions. I have therefore laid out the steps below and have supplied accompanying photographs of each step.



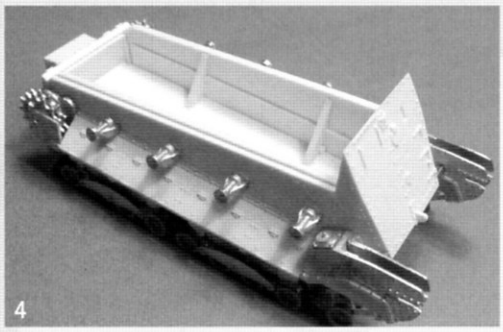




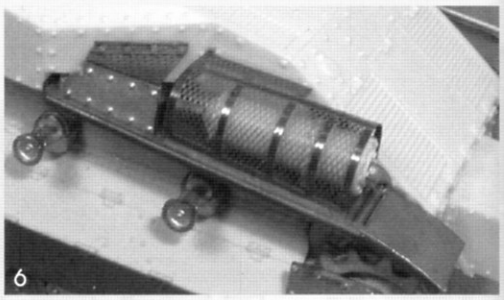
1. The complete idler and drive sprocket. The return rollers are small and difficult to assemble. The bogies take a lot of patience and careful attention to the parts since all four are different. 2. The track links are two piece affairs requiring careful assembly with very little glue. 3. The front idler assemblies could easily require several sets of hands because of all the parts. 4. The bogies were easy to attach but pay attention to alignment. The return rollers are mounted on something that looks like arrows and are of different heights. 5. The hull top did not fit well and required some filling along the sides underneath the sponsons. The kit furnished door handle was not used since it was flat, and was replaced with a brass wire. The brass photo-etch piece, EC41, does not go on the China version. 6. The left rear fender required a lot of careful work. The fender is a sandwiched piece of thin photo-etch brass on top of a thicker piece. The muffler screen was very delicate and required careful handling. 7. The right rear fender has all the tools on it. They clean up better than most but I did drill out the handle holes in the jack.

The Suspension

Beginning with the first step, I cleaned up the white metal parts and assembled the drive wheels and idlers. Next, the bogies were assembled. They used injected plastic rollers that come on the track sprues. Once they are assembled as subassemblies, it is necessary to put the bogies together. They come in pairs and use photo-etch connectors. The connectors are from the steel photo-etch sheets, not brass, so they are stronger. Be careful on assembly, since there are actually definite pairs, with the outside connectors having little dashed lines around the mounting points. Additionally, the large leaf springs have different ends. The instructions show this, so as long as you pay attention, you should be okay. The last part of this step is to assemble the eight small return rollers. These are all white metal and very small and difficult to clean up. The attachment points are not great, so I used a little extra super glue on them.

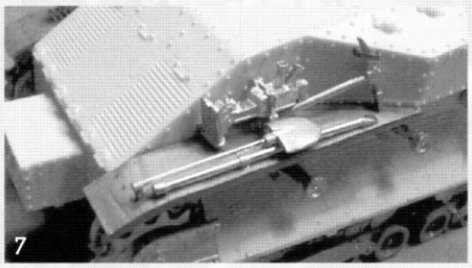


The second step was a little difficult to figure out, but once I did, the only hard part was assembling parts M34, which require several sets of hands to get together. I did cut off part M35's plug, since it was a little too big for the hole provided on M28.



A little resin

Finally, in the third step there was some resin to be had. I cleaned up the hull bottom pieces and glued them together. Pay attention to parts R8 and R9, since they are different. The bottom illustration in the plans points that out with a small ridge shown on the front. Parts M31, the drive sprocket mounts, were a little difficult to get in and required minor cutting and filing.



The fourth step was to assemble the front subassembly. The idler goes on okay but watch out for the photo-etch parts, EC42. They are beveled on the one side that should go against the hull. The rear drive wheel goes on without any difficulty. The return rollers are then glued on to the arrows. It is a good thing there is no pressure on these, since they only flush mount. Also, watch your alignment, since I had to break two of them off and reglue them. For some reason the bogie assemblies need a little extra enlargement of the mounting holes. The diagram in the instructions shows how much. There are also two photo-etch pieces, EC 54 and 55, which go underneath the sponsons. I glued all the bogies, paying careful attention to the alignment and use of correct pre-assembled bogies, since they are all different.

In step five, I started with gluing the filler pieces underneath the hull top. I then attached the top on the hull. I did have to use a hair dryer to straighten out one of the fillers first. Unfortunately, on my model the front did not align well. If I glued it flush with the hull, the front plate would stick up and would require trimming. This is not really an option because the rivets would be lost. I matched the top part and filled in the resulting gap between the top and bottom hull with Squadron green putty. I then added the details to the front, but replaced the photo-etch handle, EC3, with brass wire, since the photo-etch was too flat. I also drilled out the machine gun barrel. One piece I later had to remove was the photo-etch part, EC41, which is a shelf directly below the driver's box. This is only appropriate for Type 89s that served in the Philippines and I planned to make mine a China version.

Fender for yourself

Step 6 was the first of what I call the fender steps. They are made out of sandwiched photo-etch parts. Watch the drawings! I was a little confused at first about what direction I was looking in the perspective drawings. I constructed the fender, then glued it on the hull. I drilled out the exhaust as much as I could and glued it on the muffler. Part M12, the connecting pipe, should be angled down from its mounting point on the muffler to the chassis. The muffler and exhaust pipe are then glued on. I then glued on the assembly that goes around the pipe. I used four of the Grandt rivet heads to put parts EC40 and EC44 together. I then folded the muffler guard, EC46, to fit around the muffler. This guy is very thin, so be careful. I was very impressed with the photo-etch parts. The brass ones vary in thickness, depending on what they are used for.

Step 7, the second rear fender was a little easier, but still required careful positioning. The tools that go on the fender are well cast and only required minimal clean up before attaching. I did drill out the two sockets for the jack handle before attaching it.

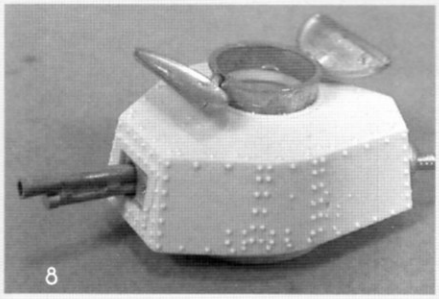
In Step 8 the front fenders required a lot of folding to form right. There are also a few Grandt line rivets that need to be added here, as well.

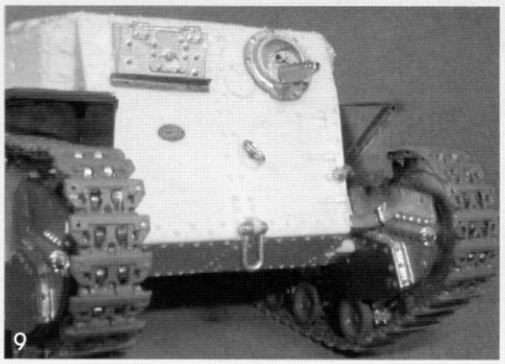
Turret time

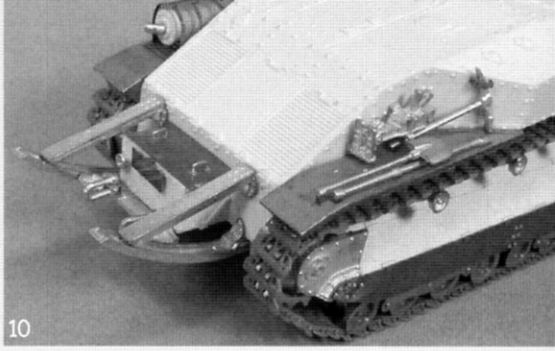
Step nine, the turret was very easy, since there was so little to it. I cleaned up and glued on the bottom piece. I then drilled out the gun barrel and glued it on. The hatches in the instructions appear to be vertical if left open, but all the photos I have show that they open almost flat. The rear machine gun was also drilled out before installation.

Skirts and Tracks

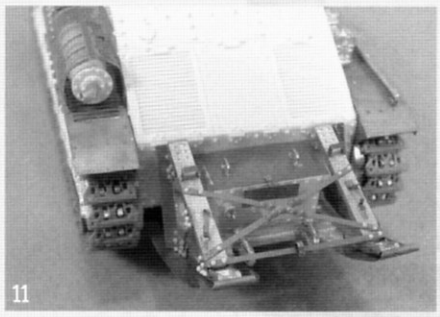
Step ten started with the lower skirts, which are easy except for adding all the Grandt Line rivets. The way I handled the rivets was to first cut them off their spruce at a sharp angle. I then dipped the ends in a puddle of super glue and put them in their holes. Once they were all in I cut off the back part of the rivets that sticks through the photo-etch and sanded it flat. You will also need to do this on the tail skid. The small hinges, EC15, are







8. The turret was easy but I did drill out the gun barrel a lot since it is not that thick. 9. The front fenders were not too bad, but required a lot of bending to get their correct shape. The small brass braces that go on the hull will only go on one way so pay attention. 10. The basics of the tail skid are made of white metal. The license plate and toolbox cover were also added here. 11. A rear view of the completed tail skid shows all the rivets required. 12. A side view shows how complicated this tail skid looks, but it was actually pretty simple to construct thanks to great instructions. 13. The left side reveals all the details and lots of rivets that this tank has. 14. The tracks had to be glued down on the return rollers after painting was complete.



difficult to cut off their sheet since they are made of steel and very small.

The hardest part of this kit is assembling the tracks. They are beautifully injected two part plastic tracks. The tracks are from ModelKasten, which was my first guess anyway, since the little plastic sprues are just like theirs. First warning, you will need every single track since there are no spares, so be careful removing them from their sprues. The "Carpet Monster"got one half of one of mine. It took two days and various "live"sacrifices before he would give it back to me. I never really liked that cat, anyway. Another important note is to leave the front idlers loose. They slide back and forth in their mounts until glued. You need them loose so you can adjust the track tension later.

The instructions indicate gluing the links together in a continuous section. The problem with this method is that there is no way to keep from gluing the pins at the same time and making the tracks inflexible. I did try this first, but gave up since I wanted a flexible track. I tried several other methods of assembly and finally settled on the following procedure.

First I cut about 10 pairs of track licks off their sprues and glued the two halves together with liquid plastic cement. I then proceed to cut another 10 pair off their sprues, while waiting for the first 10 to setup. Once I had glued the second set of 10, I proceeded to connect the first set, which had been glued for maybe 10 minutes or so. The trick is to open the back links enough so the pins will go in. If you wait till the glue is completely dry, you cannot get the pins in. They need to still be flexible to do this. If they have only been setting for about 10 minutes, then it is possible to open them and not have the pins get "wet."When I had finally settled on this method, it took a couple of evenings to complete them.

Once I had completed the tracks, I attached the ends together on the tank. I could have left them off until after painting, but I felt it would be difficult to attach them. The tracks are very strong compared to the traditional ModelKasten pin method. They take a little more punishment, but you still need to be careful. I cheated on the last connection in order to attach them around the suspension. I cut off the pins and then just glued the joint together. This was after wasting about an hour trying to get the pins in like I did above. The trouble is, I just couldn't get the necessary grip on them while dealing with road wheels. Once complete, the last step is to adjust the track tension by sliding the front idler out and taking up some of the slack before gluing them.

Tail dragger

Step 11 was the beginning of the two steps to assemble the tail skid. The basic parts are cast metal, which I cleaned up and assembled using super glue. The method of attaching it to the hull is not very good and I ended up bending the mounting bracket on parts M17 a little to get a good angle. I then cleaned up and glued on the two towing brackets. Lastly, I attached the photo-etch license plate and top for the toolbox. I put two brass wire handles on the rear box. I did not use the brass wire that was supplied for the kit, since the reference photos I have show a larger diameter handle. I was very careful with alignment on all these pieces since the mounting points were a little vague.

The final step looked at first glance to be almost impossible because of all the rivets. I just dove on in and it turned out to be pretty easy. Just follow the instructions on each part and before you know it, you have a really neat tail skid. I used the method described above to attach the Grandt Line bolts. For the other rivet heads, I used the ones supplied on what look like scrap pieces of resin with the rivets on them. I just cut them off using a very sharp X-acto knife and glued them on one at a time.

Setting the scene

I wanted to place the tank in China, since this is where the Type 89 was primarily used. I am sure you are aware there are just not a lot of 1/35 scale Japanese soldiers in China available. However, I was lucky to find a new set of figures produced by Harper Castings of a Japanese soldier marching two Chinese POW's at bayonet point. The one catch is the Japanese soldier is definitely dressed for cold weather. Kirin also made a set of two Japanese tankers in winter clothing. Unfortunately, they have been out of production for a year or so. Luckily, my local hobby shop happened to still have a set available. The Harper figures required some clean up, but once assembled they look pretty good. I assembled all the figures and then sprayed them with Polly Scale U.S. tan for a base coat for the faces and to check for seams. I then painted the faces and hands using oil paints. The uniforms were all painted with Vallejo paints.

The base was a plaque that I picked up at an arts and craft store. I first sanded it, then gave it three coats of a stain and sealer mix. Since I wanted this to be a winter scene, I added a dead tree from Armand Bayardi. I then put on a thick coat of Celluclay mixed with white glue and small gravel. Once dry, I gave it a very thin wash of burnt sienna oil paint. I added a few bits of dead grass made from a Hudson & Allen product.

Color, color, color

The instructions give you three choices for color. I was lucky enough to see a posting on the Japanese armor e-group forum Senshangun that was roughly translated explaining the difference. The number 1 vehicle #8941 has a three-color scheme of tan, red brown and dark green. This tank participated in the Philippine invasion. The number 2 vehicle #213 had

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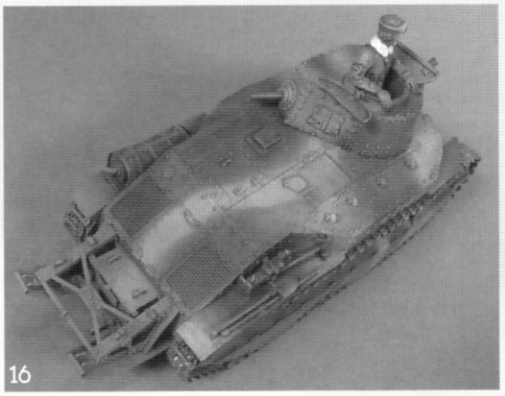
15. The left side of the tank with Kirin tank figure in the turret. I chose to spray paint the yellow stripe instead of hand painting it. 16. The tool handles were painted with Vallejo wood stain. 17. The Kirin and Harper Castings figures turned out to be perfect for this setting. I understand that Harper Castings also did the tank figures for Kirin. 18-19. The infantryman and two Chinese prisoners are a new set from Harper Castings. The Chinese Army was originally supplied and trained by the Germans, which explains the helmet.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the standard colors mentioned above, plus the yellow stripe. Number 3 vehicle was the naval version, which was painted gray. As mentioned above, the only other difference between these is #213 should not get part EC41 and only the naval version should get the anchor emblem on the front, instead of the star.

Before I saw the translation of the painting instructions, I had used the number 8941 for the China version. To correct this mistake, I repainted the tank using the number 213 decals. Unfortunately, in the process of removing the paint, I also ruined some of the tracks that were glued to the base. I was able to contact the general director of GUM-KA Models and he was kind enough to send replacement tracks at no cost.

Since I had decided to set my tank in China, I obviously wanted to paint my tank as good old #213. I based my colors on three chips that are supplied in the Pacific Theater Focus News Number 1 published by David Harper. He has done extensive research on WWII Japanese vehicles and gathered paint chips, which he based his article on. After the usual wash with warm soapy water, I sprayed the whole tank with Tamiya dark yellow. I then sprayed the camouflage pattern on using Tamiya Hull Red and Tamiya Deep Green. These colors match David's chips almost exactly. As mentioned above, the Japanese tanks in China had a yellow stripe that roughly ran around the vehicle. I have learned to really hate this stripe, since yellow is such a lousy color with poor covering ability. Rather than brush the paint on, I chose to spray on this cross using Polly Scale Japanese Deep Yellow. I then painted the tracks Polly Scale Rust, the tool handles were painted with Vallejo tan, then wood grain. All metal objects got a coat of Vallejo 50/50 Black and Dark Metal. This included the whole barrel since the Japanese apparently left that area unpainted or at least a darker color on their tanks. I can't tell from the black and white photographs.

I sprayed the areas to receive the decals with Polly Scale clear gloss. One word of warning, the decals are very thin, which is good, but the bad news is they are almost transparent. I was lucky in that the areas where I applied my decals were not on a boundary between colors so they look okay. I used Solvent Set on them and then sprayed all the decals with Polly Scale flat clear to give them a protective coat.

I then gave the tank a wash of very thin black oil paint, then gave the tracks a second wash of black oil. I dry brushed the whole tank with a mixture of sap green, raw umber, and titanium white oil paints, with a final light dry brushing of titanium white to pick out the rivet heads. I used Rub'n Buff Silver Leaf to dry brush the tracks, tools and gun barrels.

What do I think now?

Well, I'll tell you. This is the best multi-media kit I have every built. The quality of the castings is superb and there is almost no clean up of parts required. The tracks are a lot of work, but look great when finished. This is not a beginner's kit and I would only recommend it to an advanced modeler. The instructions are very good, but require careful study. Anyone who builds resin kits knows this is where many companies fail badly. Even with the challenge of the instructions being totally in Japanese, it didn't detract from the well laid out steps and illustrations. I'm sure this kit is really only for domestic sales and is a very limited production. The only place I'm aware of to get it is from Rainbow 10, a Japanese online hobby shop. It is expensive, at around 160 USD. However, considering all the photo-etch, decals, and injected-molded tracks, it's really not that bad. I would like to extend my thanks to my friend in Japan, Taki. He helped on the Japanese nomenclature, which baffles most of us Westerners. He also runs the best website on Japanese WWII equipment, which is referenced below.

As I was sending this article out I heard that this kit has been discontinued because GUM-KA could not get any more tracks from ModelKasten. The same rumor says that they are going to release an early Type 89A later with metal tracks.

—Jim Hensley

MMiR RECCE

Type 89B. Kit Number V-03-17800, GUM-KA. Retail price $160.00.
Japanese Tank Crew WWII. Kit number 25004, Kirin. Retail price $15.95.
Japanese Soldier/Chinese POW's. Kit #3F002, Harper Castings. Retail price $39.95.

References:

Japanese Medium Tanks, AFV Weapons Profile # 49, Hara, Tomio Lt Gen, Profile Publications Ltd., Windsor, UK, 1972. This is an old but good source. LTG Hara was a very important armor historian for the Japanese.

Preserved Japanese Tanks, Larkum, Trevor & Kelley, Allan, Armour Archive, Northampton, UK, 1999. This book is not published yet but can be found on the Internet at http://www.armourarchive.co.uk/pjt.htm

Japanese Tanks and Armoured Vehicles, Kimura, Argonauts Publications, Tokyo, Japan 2000. Totally in Japanese, but great photos.

Japanese Fighting Vehicles of WWII, Delta Publishing, Tokyo, Japan, 1996. A great source of photos.

Taki, Taki's Home Page, http://member.nifty.ne.jp/takixxx/

Japanese Tank Colors, Pacific Theater Focus News No.1, 1998, Harper, David. This is a little newsletter that was put out by David, but it's probably scarce because it was a very limited run.

Could it be... Satan?

We judge Harper Casting's devilish M3 conversion

It was not long before a flame-throwing tank was needed in the PTO of WWII. The M3 Stuart series of tanks was ultimately chosen for this task because of the lack of medium tanks and the introduction of the new M5. A number of experiments was made using the bow cal. .30 machine gun opening. The M1A1 portable flame-thrower was tried in this position and was soon found to be unreliable. The British introduced us to their Ronson flame-thrower and it soon ended up in M3A1 Stuart turrets.

The Stuart Satan could shoot up to 80 yards for two minutes with a thickened napalm fuel. They would no longer carry the bow-mounted cal. .30 MG, as there would now be only two crewmembers controlling the tank. One crewmember would drive and the commander would control the flame gun. The bow-mounted machine gun was removed and plated over with 1 inch plate. The left side turret periscope was moved to the centerline of the turret, and 170 gallons of flame gun fuel was stored in the hull.

Hunnicutt, in his excellent study on the Stuart, mentions that the Marine Corps requested 24 of these flame-throwers for the invasion of the Marianas. One half went to the 2nd Marine Division and the other half to the 4th Marine Division.

The kit

Harper Castings M3A1 flame tank conversion consists of a resin turret, flame gun, mantlet, rear curved upper hull extension, an extra right front fender mounted toolbox and the upper hull from the driver's and co-driver's positions rearward. One thing that is required from you is a Tamiya M3 Stuart as a base. This may be hard to find but then, on the other hand, you may run across someone with a dozen of 'em.

The instructions are impressive, but somewhat vague on some of the modifications. Included are one left front quarter color photograph of the assembled and unpainted model with lines drawn to various modifications and text boxes explaining each one. Also included are seven color photographs of a full scale M3A1 featuring various details like air filters, air filter hoses, final drive housing bolt detail, engine deck screen and fuel tank mountings. A second sheet explains how the conversion was built and features seven black and white wartime photos of the Satan being tested and in action. The box top features a photo of the painted and weathered model.

The quality of the five resin castings is very good. My parts did not need any filler at all. The area around the driver's and co driver's hatches is just a tad rough looking and I felt it could have been better.

This is no simple build because of the older Tamiya M3 kit. The Tamiya kit lacks many pioneer tools and fittings that will have to be added by you to bring this model up to today's standards.

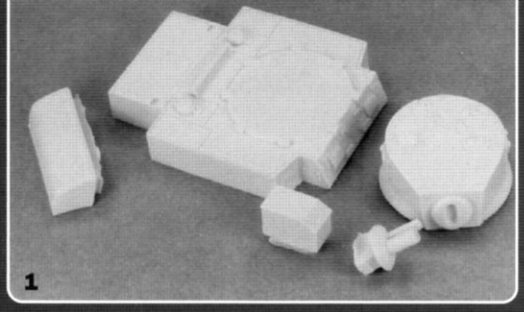
The build - the hull

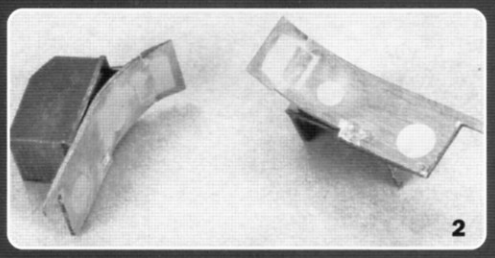
I did not feel like spending the money on a photo-etch set so I used photo-etched scrap here and there, along with styrene stock when I could. I also thinned out kit parts to keep costs at a minimum.

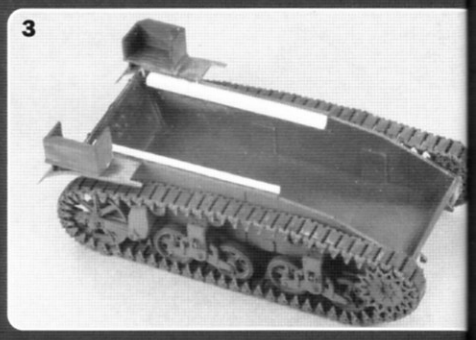
The lower hull was built to Tamiya's instructions with the addition of AFV/Club T16 Stuart individual track links. The Tamiya M3 kit tracks are totally useless. I am sure you are well aware of the AFV/Club tracks by now, so I won't go into them in detail. All I can say about them is that they are very nice, but also very aggravating because of the ejector pin marks on one side and the sinkholes on the other.

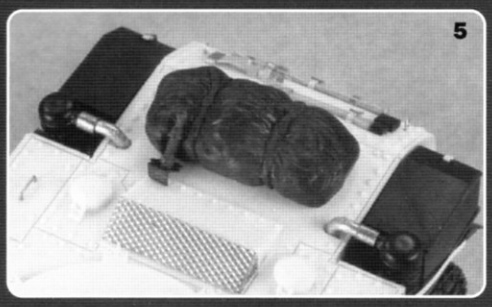
I detailed the lower front hull with Verlinden bolt heads and reshaped the final drive housings to look more rounded like the real Stuart. This is one area of the old Tamiya kit that really needs attention. I refrained from adding foundry casting number detail to the hull front. It would be a nice detail to add at this point though.

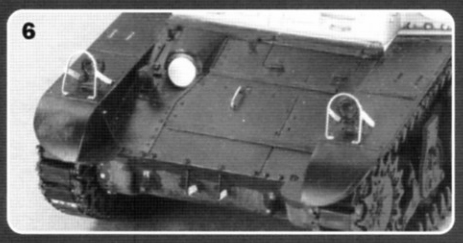
At the rear, I added grab handles for the engine access doors. I could not find any appropriate tow hooks in my spare parts for the

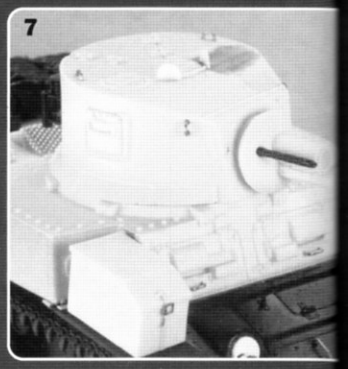


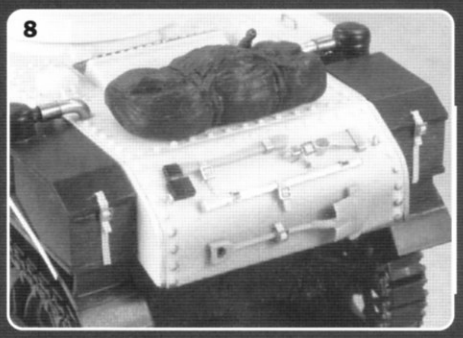


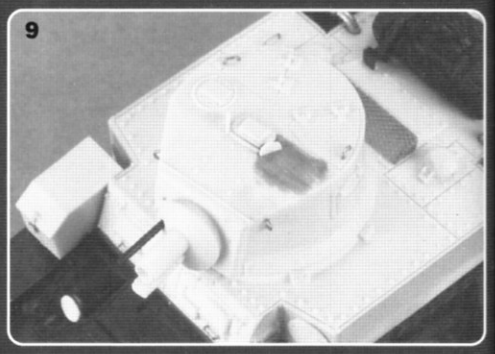












1. This is what is included in the Harper Castings M3A1 Satan Flamethrower. The pieces are finely cast and very nicely detailed. You will have to add many extra pieces to this build because of the older Tamiya M3 base kit to bring it up to todays standards. 2. I spent a considerable amount of time on the underside of the fenders. I like my sponsons filled and my undies clean. 3. Because the resin upper hull was so heavy, I added a couple of styrene reinforcement strips to provide a stronger bond between the two hull pieces. 4. This view from port shows the Harper Castings conversion mated up with the Tamiya M3. 5. Final drive housing detail was added to the lower hull along with the footstep. The headlight guards are scrap photoetch brass and styrene strip stock. The mg holes were plugged with styrene sheet and the headlights were drilled out to accept MV Lenses no. L 116. 6. This view shows the extra right fender mounted toolbox along with a strap made from masking tape and a Verlinden buckle. Grab handles were added with .015 wire. The co ax mg protrudes out of the mantlet farther then the flame gun. 7. I had a scrap piece of diamond pattern screen in my spare parts that gave me just the right amount to work with for the engine screen, after a bit of coaxing of course. The antenna came from a Tamiya half-track and the canvas tarp from an Academy M113. The gasoline engine needs to have the air filter tubing shortened, as the Tamiya kit is the M3 diesel. I used solder and lead sheet for this detail. 8. The only pioneer tool the Tamiya M3 base kit comes with is a shovel. I added scraps of photoetch and tools from my spares box. The fender reinforcing straps can be seen here. These were made with styrene strip stock. When I was finished I noticed the box top of the AFV/Club track links had a great view of the tool fittings on the M3A1 rounded style rear hull. 9. An Angels view of the Satan flamethrower turret can be seen here. The Harper Castings conversion comes as a standard M3A1 turret with the protecto scope at the left side of the turret centerline. The Satan turret had it moved to the centerline over the flame gun, a beautiful casting indeed, very nice.

Stuart, so I added them from a spare Tamiya M3 Lee kit I had on the shelf.

There is considerable room for added detail in the Tamiya suspension but I am waiting for a good up-to-date Stuart to come along before I get too serious about taking that journey. I did thin out the bogie track skids to look more in scale and that was about it.

At this point I painted the assembled lower hull. I then added two mounting strips inside the hull to give the frail plastic lower hull a better bond with the resin upper hull. I did keep the hull separate until after I added the track links.

The next step was to prepare the upper hull for the Harper Castings M3A1 conversion. The Tamiya hull has to be surgically separated from the forward hatches back. I ended up trimming away too much of the mounting surface and had to put some of it back with styrene strip. This can be seen in the in-progress photos. I dry fit the resin conversion many times as I did not want a gap under the inner sponsons when I mated the two hull pieces later on. The underside of the fenders had ejector pin marks and location holes, and these were filled and sanded smooth.

The upper hull was now mated to the lower hull and once this was dry I added the footstep at the front of the hull with scrap photo-etch and styrene. I have seen this footstep in photos, with the rear braces made of flat stock, and also made of angle iron. I used styrene flat stock here. Scraps of photo-etch and styrene strip were used for headlight guards and the rear fender braces. Various grab handles were added next with .015 wire. I made up two machine gun location cover plates, one in the left sponson and one in the old cal. .30 mg position. These were made by filing a very thin edge in a brass tube and then using it to stamp out the circle in styrene sheet.

The Tamiya kits headlights were drilled out to accept MV Lenses no. L 116.

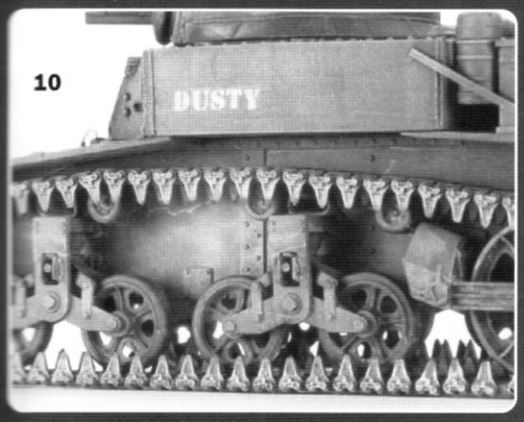
I added a tarp to the rear of the engine deck from my spare parts box. I think this was from an Academy 113 kit.

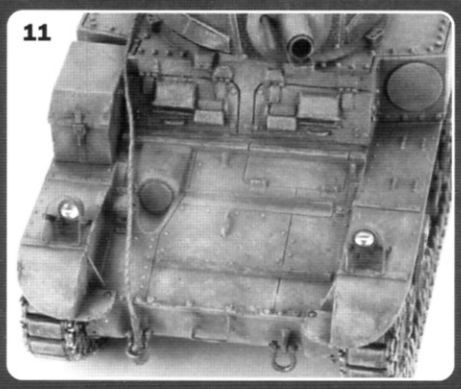
The air-cleaners are horrible on the Tamiya kit and to save going through a total scratch build of the things I left them as they were. I did however make new inlet tubing out of .085 solder as the gasoline engine had shorter tubes mounted closer to the outside edge of the hull. The Tamiya kit is the diesel variant of the M3.

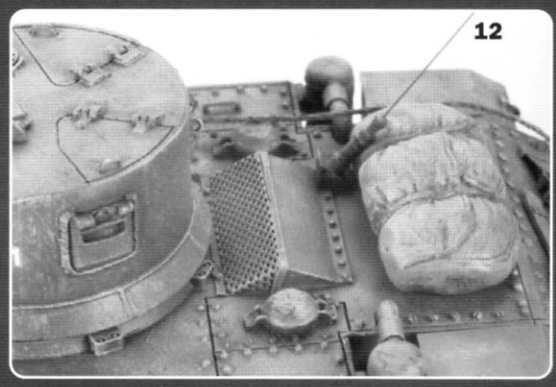
The rear antenna mount was scraped thin with a trusty no. 11 x-acto blade to look more in scale. The antenna was added from a Tamiya half-track.

I had a nice piece of diamond pattern screen in my scrap heap so I made up the engine deck screen from that, after a bit of coaxing, of course.

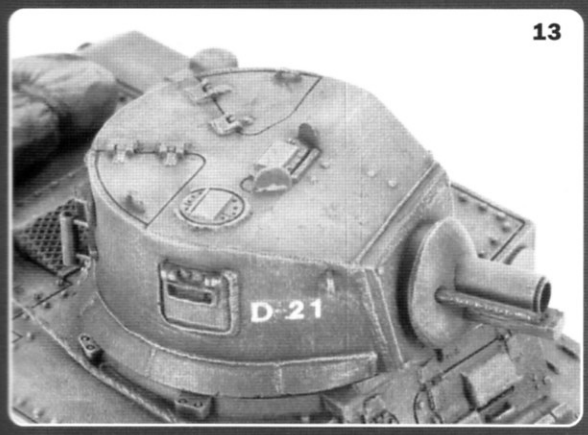
I absolutely love Tamiya's tank tools, but my spares had completely run dry, so the tools on the rear of the upper hull are a mix match of Verlinden, Academy and Combat Brass. The Tamiya M3 kit only comes with a shovel. The straps were made from masking tape and the hull attachment hooks are from an Aber M50 Sherman photo-etch set. There are two small eyelets on each side of the upper hull near the tools. These were made with .020 wire.

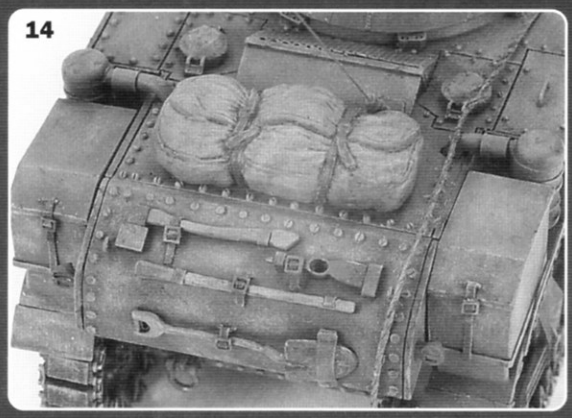


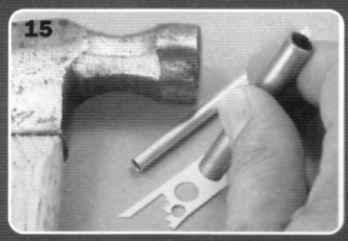




10. This view shows the nice AFV/Club track links. I built the suspension as it comes out of the box. I did, however, thin out the track skids on top of the bogies to look more in scale. 11. This photo shows the machine gun openings plated over, along with headlight guards made from scrap photoetch and styrene strip. 12. In my weathering I tried to show vertical streaks from rain water running down the turret and hull sides. 13. The standard M3A1 turret has the protecto scope located to the left of the turret center line. The Satan had it relocated to the centerline. You will have to do this modification to the conversion. 14. The air cleaner tubing needs to be relocated closer to the outside edge of the hull. I made new tubing with .085 solder. The hose clamps were cut from lead sheet. 15. Here I am stamping out the machine gun opening covers with brass and aluminum tubing and a hammer. 16. This right side view shows the extra toolbox mounted on the right front fender. 11 Here is a left side view of the finished model. 17. The tools and fittings are a mix match of pieces from my spare parts box. I added engine access door grab handles from .015 wire. The tow cable is model ship rope with ends from an Italeri Sherman.







If you choose to scratch build the extra fuel drum mounting pads and fittings, the Hunnicutt book on the Stuart has some pretty good photos of it. I chose not to add them because of limited time.

The extra toolbox that HC supplies was mounted to the right side front fender, using the kit supplied photos as a reference. My references were very limited and I could not find any other Satan tanks with this toolbox. The instructions do show a Satan named Dusty with this box. Dusty is a Satan from Co. "D" of the second tank battalion. This is also the tank the masterbuilders, Keith Glueck and David Harper modeled for this conversion.

The turret

The turret is very nicely cast and detailed, but there is one major thing that needs to be addressed. The periscope is mounted to the standard M3A1 left side of the turret. The final Satan flame-gun turrets had the periscope moved to the centerline. Harper Castings leaves this up to you. I drilled about five hundred and forty two thousand holes around and under this periscope. OK, not really. The few holes I did drill allowed me to cut under this scope and remove it from the turret. I then sanded it very, very thin and moved it over to the centerline and glued it down. Two armored "ears" were added to each side of the protecto scope with styrene flat stock. The cavern I created was filled in with Bondo and lacquer primer.

HC gives you the location of the grab handles and lift loops and these were added with .015 and .020 wire. I used the slimly detailed Tamiya rear mount for the cal. .30 mg. I have not seen any photos of the Satan with this mg installed so I left this one off as well. However, I did drill out the mount where the pintle would set into.

The co ax cal. .30 was mounted to the mantlet next. From what I could tell from photos, it appears the machine gun sticks out a little bit farther then the flame gun tube. The end of the barrel was drilled out with a pin vise and bit.

16

Painting and weathering

I used Model Master olive drab, FS 34087 for the base coat on this little hot tamale. I painted the lower hull early in the build and then the upper hull once the two were joined. I put a coat of Model Master semi gloss lacquer on next, followed by an oil wash of burnt sienna and flat black. Once this was dry, I applied a controlled wash of Tamiya Buff on the lower hull and suspension to simulate dust that had collected there over time. I dry brushed the base color on the upper hull next to get back to the original OD. The OD was now lightened with a mix of Model Master Dunkelgelb and white. For the final coat of base color, I lightened Model Master faded olive drab with the same Dunkelgelb and white. A dry brushing of the upper hull surfaces with Tamiya buff was taken out to the point of having the edges look frosty. I then hit the edges with a dry brushing of the base color to eliminate the frosty edges.

MMiR RECCE

Tamiya M3 U.S. light tank. Kit number 35042. Kit graciously provided by me.

Harper Castings M3A1 Satan flame tank conversion. Kit number HRTC-001. Kit graciously provided by manufacturer. Suggested retail price $34.95.

AFV/Club T16 M3 Stuart Track. Kit number AF35019. Kit graciously provided by the manufacturer. Suggested retail price $14.98.

References

Stuart A history of the American light tank volume 1 by R.P. Hunnicutt, Presidio Press 1992. ISBN: 0-89141-462-2. This book is a must for anyone looking for history on the Stuart tank. A good view of one type of foundry casting numbers can be found here, along with a wealth of info on the development of the Satan flame-thrower.

Stuart U.S. light Tanks In Action by Steve Zaloga illustrated by Don Greer, Squadron/Signal publications, INC. 1979. ISBN: 0-89747-084-2. Very informative and an excellent overview of the many variants of the Stuart.

Military Modelling Desert Honey by Steve Zaloga, Vol.29 No.6 28 May-17 June 1999 Nexus Special Interests. Steve Zaloga goes over many of the mods and detail additions that should be made to the Tamiya Stuart. Beautiful work, indeed!

This helped get the ground in dusty look I was after in the Pacific Theater, but eliminated the exaggerated frosty look of an over done dry brushing job. A touch of rust was added here and there with burnt sienna and a few chips and scuffs were added with a sepia colored artist prizma pencil. Brightly worn edges were hit with a no. 2 pencil and graphite powder was brushed into the paint where the crew would walk to show wear.

The tarp on the rear deck was painted Vallejo khaki with a wash and the straps on the tarp, tools, antenna ceramic insulator and toolboxes were painted Tamiya brown X-9.

Conclusion

The PTO has been a long neglected theater of the war in the modeling community and I welcome any conversion or model pertaining to it. The old Tamiya Stuart has seen its day but a nice kit can be built mating the Harper Castings Satan conversion and a little old fashioned elbow grease. Enjoy!

—Barry Beaudry

Although not a Satan, this M3A1 is pretty much the dame as the version used for the conversion. The above shot showcases many of the front visors details. The Plugged sponson on the left side can also be seen. At left the tool stowage can be seen, as well as the twin armored doors for engine access below. This tank uses the same rubber block track I chose to use on my kit. Steel cleat tank is also an option. Below: this side views shows how the rear air cleaner is sandwiched between the side sponson and the rear stowage box. The overall turret shape is shown well here, as is the shape of the side armored visor.

MiniMen

A Peek at What's New on the Figure Front!

Custom Dioramics

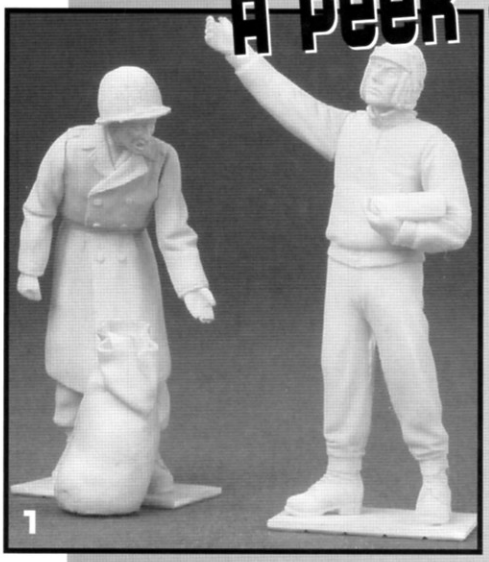
Custom Dio continues their barrage of new figures to go along with their buildings and accessories. Let's take a peek.

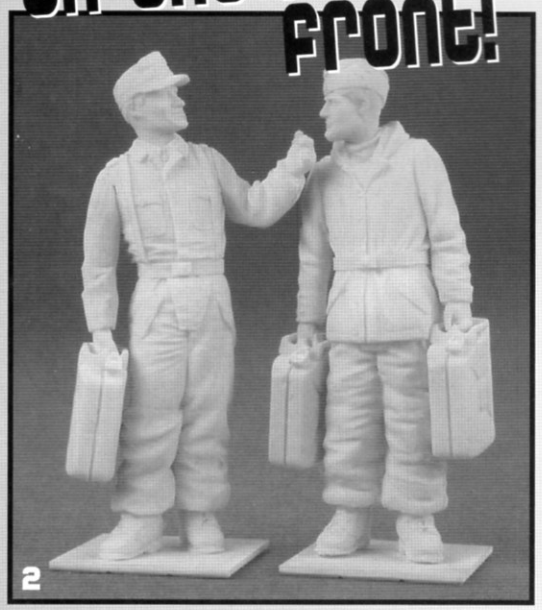
4008, Mail Call (Part 2) (1), has two GIs who can be paired with the earlier set of 4006. There's a tanker reaching up for the latest news, being delivered by a soldier in long overcoat from the back of a truck (truck not included). An open mailbag is also included.

4009, SS Tankers (2), features two winter guys lighting up while lugging jerry cans. Both wear the reversible winter over suit, one without jacket, and these guys will look just right behind your latest German AFV. A trio of resin jerrycans is included as well.

Here's a nifty idea—GIs to populate your headquarters units. **4011, Headquarters Personnel #1 (3)**, gives you an officer in Ike jacket and service cap along with two bareheaded clerk types. **4012, Headquarters Personnel #2 (4)**, has three officers hovering over a map. Custom Dioramics manufactures a cool assortment of office furniture and equipment, and these guys are all designed to fit right in.

4016, The Victor—GI Holding Flag (5), presents a GI with carbine in one hand and Nazi flag in the other. This guy has serious conversion possibilities; the flag is separate from his hand and he could also be pointing or waving.





Dragon

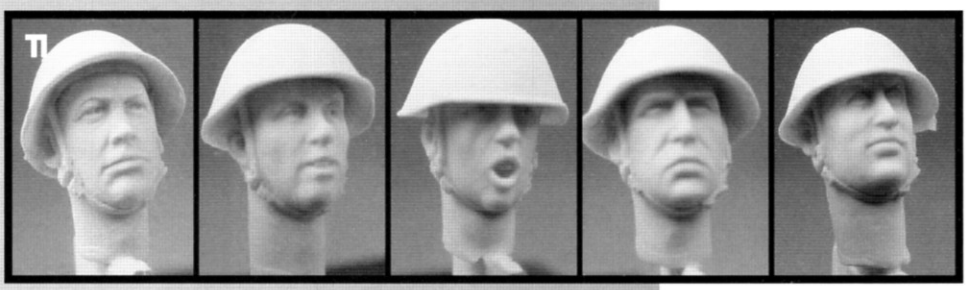
Another cool set of action figures from the world leader in injection dudes.

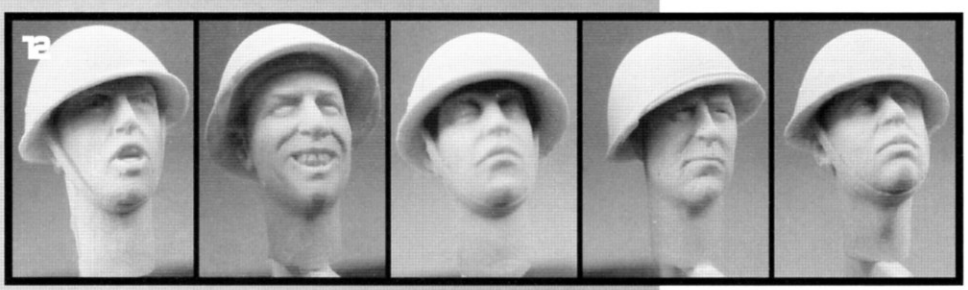
6154, Winter Combat/Eastern Front 42-43 (6), features a quartet of Germans all identically clad in the reversible winter over suit. This time the boys are all in the thick of it, two with Kar98K rifles, one firing his MP40, and one pulling the ring on a stick grenade. Even if you use up all the considerable gear, you still have a Panzerfaust and grenade left over. Mighty fine, and they'll work just as well in the Ardennes.

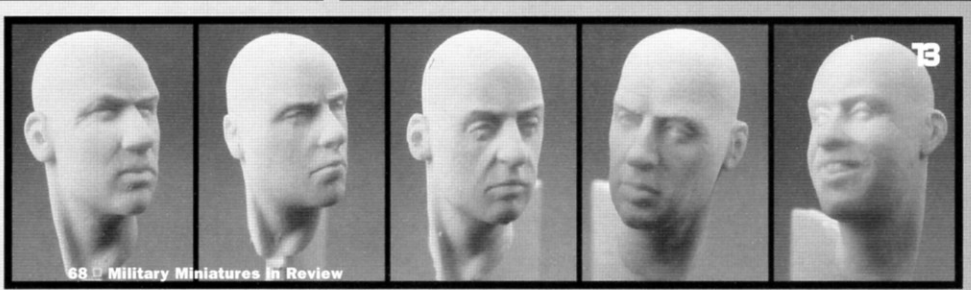
Dreamcatcher

Dreamcatcher has been busy buying up and producing other lines, but now they're back on track with some of their own new releases.

54005 (7) was so new when we got it that it wasn't even named yet. But since **54004** was entitled **IDF Medevac** back in Issue 24, we're betting this is something similar. Another Israeli soldier is carrying his wounded pal to safety while keeping an eye out for bad guys. Once again, the casting is top drawer. Imagine Dreamcatcher's two sets together with Warriors' 35340, and you've got one helluva diorama already cooking.







Hobby Fan

Sit back, take a deep breath, and enjoy.

HF 529, U.S. M10 Tank Infantry Figures "Pick Up" (8 & 9), provides four WWII GIs who will fit on plenty of vehicles besides the M10. Three wear the M1943 field jacket while the fourth wears the lightweight combat jacket. All four have steel pots and combat gear consisting of ammo and water only. Two wear the ankle boots and leather gaiters introduced in 1944. Here's the good part. These are absolutely some of the best resin figures ever produced. We were blown away by the relief, crisp detail, and casting. There's a bare minimum of cleanup involved, and these guys rock. We encourage modelers and manufacturers alike to check these out, and see just how far the bar has been raised.

Hornet

Get 'em. Use 'em. Love 'em.

GH29, Officer with map in panzer uniform, helmet, (10) provides a unique German wearing the reed green panzer uniform plus full equipment harness. He also sports MP40 pouch, map case, holster, and a pair of gloves stuffed in his hip pocket (neat!). Wearing the steel helmet and peering down at a map, he's just right.

HWH02, 5 heads with East German pattern steel helmets (11), delivers a rare bird indeed. This set will definitely tickle those who cater to East German or Eastern European stuff in the post-WWII era.

HBH07, 5 heads wearing British Mk.III helmets 1944/80s (12), provides the heads you need and gives credit to a highly overlooked bit of British headgear. The Mk.III began testing in 1941 and began to enter the line in 1943. Though not as commonly seen as the earlier, more widely known Mk.I, it was nonetheless worn by all formations of the 21st Assault Group.

HH18, 5 different bare heads with necks turned sideways (13), and **HH19, 5 different bare heads looking up or stretched forward from a crouch (14)**, are a pair of 'popular demand' releases to add extra dimension to your figures, vignettes, and dioramas. Check the neck definition on these boys. We love 'em.

Jaguar

The California firm of Jaguar has released another fine round of "us and them" figure sets. Here's what they've been up to.

63133, Get Out! (15), is a four man set sculpted by Rendall Patton, whose style is well known and

recognized through his work for Warriors and Verlinden. We're pretty sure this is his first outing with Jaguar, and it's a winner. Jaguar started the whole wounded-buddy-getting-pulled-from-the-hatch craze about six years ago with their "Bail Out" sets and we can't get enough of 'em. This time the wounded fellow is posed to come out of a Sherman turret but will probably work just as well elsewhere. An infantryman is lending a hand, while a third tanker provides cover with a Thompson from, presumably, a strafing airplane. Very cool.

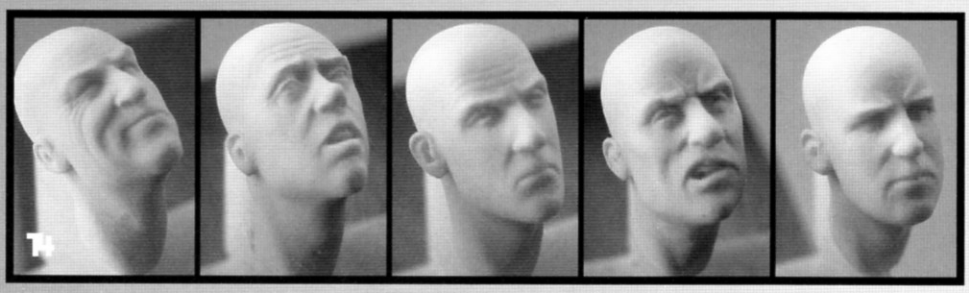
63134, Oddball Tank Crew (16), provides a repositioned Oddball from #63123 along with partial figures of Moriarty and the guy in the fez ("Turk") for the forward hatches. It should be noted that not a single negative vibe was felt during the construction of these figures.

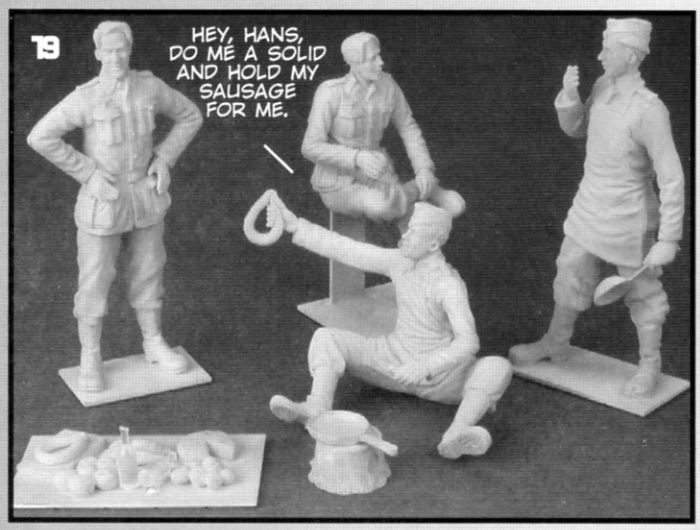
63135, Cover Fire (17), is a much-needed pair of action figures in Afrika Korps garb. The man firing the MP40 wears the tropical blouse, shorts, and DAK peaked cap while his compatriot dashes forward with Walther in hand wearing baggy tropical trousers. Note the ripped sleeve on the running dude.

63136, Knock Knock (18), portrays a pair of grunts delivering a bit of foreign policy in Vietnam. One's kicking in the door of your latest hooch while his pal hands over a grenade. These are some of the best Nam era figures ever, both wearing jungle boots, jungle fatigues, and camo covers and bearing M16s, plus the earlier canvas ammo pouches. Once again, if we had a Figure of the Month Club, this would be it.

63137, What's Cooking? (19), is a four man set to go along with the re-released Tamiya Field Kitchen. The set includes a pair of cooks in smocks plus two casual Germans sans headgear and equipment. You'll also find a fine assortment of accessories, including loose veggies, cheese, sausage, stump, frying pan, and a pair of bottles cast in clear resin. (For display purposes, we attached most of these to a base.)

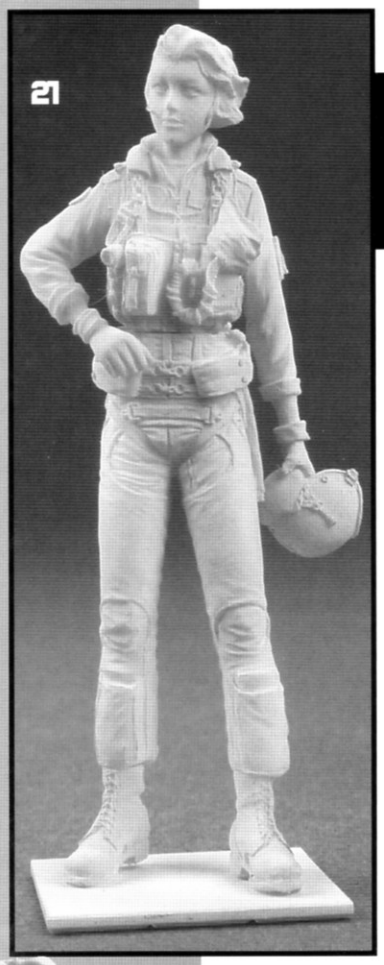
63139, Good to See You (20), is a pair of Ardennes GIs preparing to shake hands. Both wear overcoats, and one man carries a BAR while the other sports a Garand. Here's the cool part—the large snowy base already has their boots cast in, but if you want to use your own scene, two alternate pairs of boots are included.

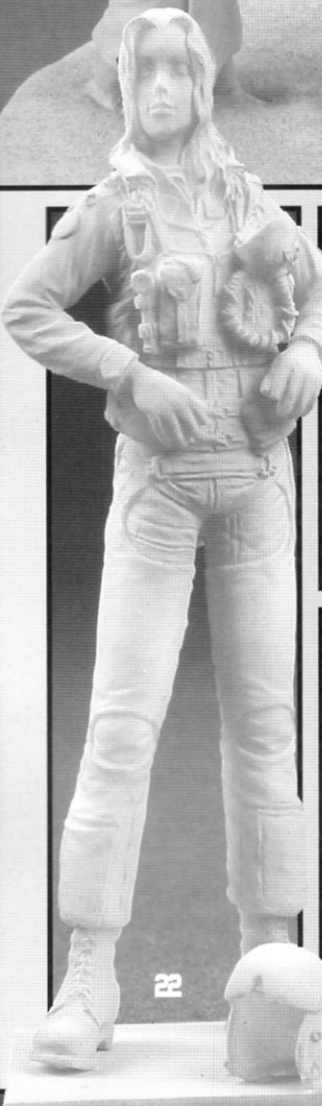


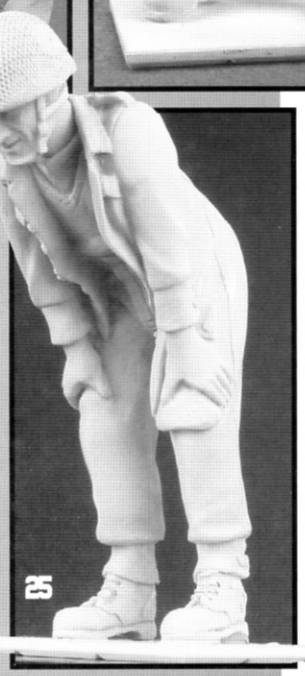


Legend

In our never-ending quest for fresh Mini-Women, here's a pair of interesting ladies from Legend of Korea. Quick—how many female pilot figures can you name? **LF0043, U.S. Navy Woman Pilot #1 (21)**, and LF0044, **U.S. Navy Woman Pilot #2 (22)**, is a pair of petite gals in flight suits







with separate helmets, ready to mount up in your favorite HELICOPTER, JET? Granted, these might just be viewed as aviation figures, but since they're 1/35th scale, we'll take 'em.

Resicast

When it comes to filling in the gaps in the British figure market, Resicast takes the prize. Here are some of their latest.

35553, Recce crew for Airborne Jeep (23), provides a pair of Red Devils to go along with the Resicast series of superb Jeep conversions. Solo they might appear stubby, but they fit perfectly in the vehicle (yeah we did). Both wear the Denison smock. Resicast has found the perfect camo netting for their helmets, and the detail is incredible.

35554, Radio Operator for Airborne Jeep (24), is a third paratrooper for the back seat, wearing the Denison smock and red beret. The headphones and mike are already there. Yeah baby.

35555, Sgt Enfiel Para Leaning Over (25), is attired in unbuttoned battle blouse, sweater, and jump helmet. Just attach the head; the body's all done for you. Picture him on the back of a tank or leaning over a balcony, or even as an exhausted runner bringing in a dispatch. This is a distinctive pose and a nice variation on a standing figure.

35556, Airborne Officer at Ease (26), wears smock, jump helmet, and webbed equipment harness. He's just three pieces (body, right arm, and head) and also sports a holstered Webley pistol.

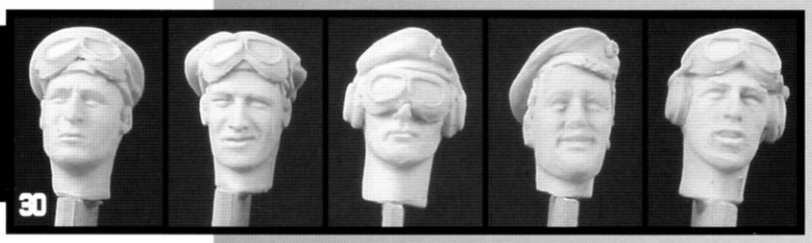
35558, Battle Weary Airborne Soldier (27), provides a standing paratrooper cradling his .303. He's got a bandoleer slung under his left arm, and his left epaulette is dangling loose. Nice touch.

35561, Head Set Tank Berets No. 1 (30), includes five heads all wearing the tanker beret. There is a nice variety of goggles and headphones here, and the typically clean Resicast casting makes these guys a treat.

35563, Tankman at Rest/Denim Overall (28), is another two-piece figure; just attach the head. He has his arms crossed and is leaning back casually. This khaki green denim outfit was a one-piece, fly front overall introduced in September 1944, so this guy will fit splendidly in any of your European campaign tanks.

TriStar

This line is brand spankin' new. So new, in fact, that we didn't have time to prime them. **German Panzer Crew**



(Normandy 1944) (46 & 47) is the first of a new line of plastic figures sculpted by Yoshitaka Hirano, who has done some very kick-ass stuff in resin for Gunze, FineMolds and under his own label. This is his first foray into plastic and the results look pretty good. The set includes a full five figures, although one of them is an officer type. The remaining four all sport variations on the panzer jammy theme. The vehicle commander gets a standard black wrap with peaked cap, while the others wear the camouflaged version of the two-piece uniform with the "overseas" cap.

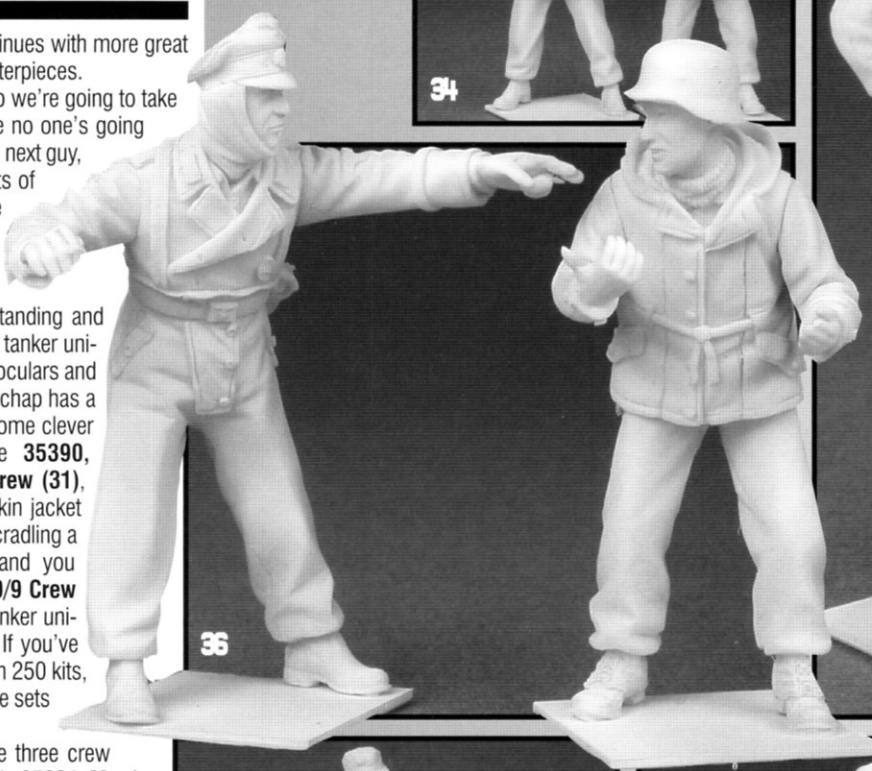
All of the figures are purposely designed to fit in and around a Tiger I, but it looks like with a few simple mods, they could be used just about anywhere.

An excellent first outing!

Warriors

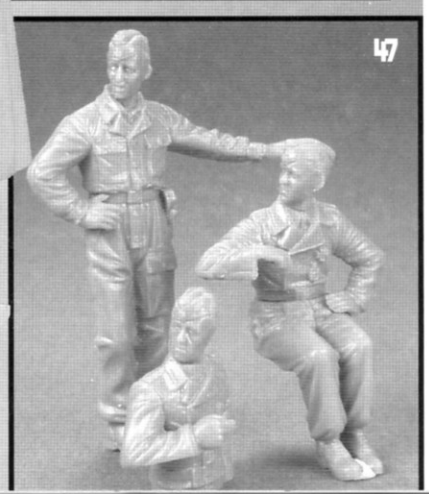
The Warriors resin assault continues with more great figures to populate your latest masterpieces.

Here's something innovative, so we're going to take these out of numerical order. Since no one's going to do their latest AFV exactly like the next guy, Warriors has designed different sets of German crews based on the same figures. For the Sd.Kfz. 250/9, 234/1, or just about anything else, there's **35386, Waffen SS Sd.Kfz. 250/9 Crew (29)**, featuring one standing and one sitting figure wearing the black tanker uniform. The standing figure holds binoculars and wears a feldmütze while the sitting chap has a map and einheitsfeldmütze. With some clever resculpting these guys become **35390, Sd.Kfz. 234/1 or 250/9 Winter Crew (31)**, one with fur-lined cap and sheepskin jacket and the other with bandaged head cradling a PPsH41. Another quick change and you have **35396, Sd.Kfz. 234/1 or 250/9 Crew (32)**, this time in the reed green tanker uniform bearing Wehrmacht insignia. If you've been cranking out the line of Dragon 250 kits, you can have a lot of fun using these sets to create a common theme.



Using the same motif, here are three crew sets for the Tamiya Marder III. First is **35394, Marder III Crew—Wehrmacht (33)**, with a pair of standing action figures in reed green or black tank uniform and Wehrmacht insignia. Switch to **35400**, and you get **Marder III Crew (Winter) (36)**, this time as SS dudes in winter garb, one in full over suit and one showing his tanker tunic over winter trousers. One more time and it's **35406, Marder III Crew (34)**, appearing now as SS crewmen in camouflage smocks and einheitsfeldmütze. Again, you can create a whole series of vehicles in different theaters and markings, all manned by like-posed crews. Most excellent.

In other news, here's **35379, U.S. Officer with Walkie-Talkie (35)**. His jacket is open and he sports .45 and ammo bag. This guy could fit in any U.S.



scene of your choosing, either tucked inside a building under fire or standing in the middle of a peaceful street.

35381, SS Tank Riders Set No. 1 (37), and **35382, SS Tank Riders Set No. 2 (38)**, are a variation on earlier sets 35360 and 35367, which featured riders in Wehrmacht uniforms. So if it's SS guys you need, here they are, and we still think they're groovy. This time around each three-man set is attired in camouflage smock, and there's an ample assortment of heads and poses to bring life to any German AFV.

35399, German Winter Pair (39), gives us two cold weather SS types. One wears the reversible winter over suit and schirmmütze and carries a Panzerfaust while gesturing with his other hand. His companion wears an overcoat lined in sheepskin and studies a map. Good for any cold weather scene.

35401, SS Panzergrenadier (40), has a kneeling dude in tanker outfit and Einheitsfeldmütze with a Panzerfaust over his shoulder, ready for action. This is another figure with excellent conversion potential.

35403, U.S. Tanker with Bazooka (41), has a standing tanker ready for a bit of dismounted warfare. He wears the tanker helmet and no jacket and cradles a bazooka under his right arm.

35404, SS 250/Neu Crew, Crew #1 (42), is an interesting pair of two piece figures; attach the heads and you're ready to rock. One is designed to lug jerry cans and the other will fit perfectly on the edge of the crew compartment. Both wear hooded parkas.

35405, SS 250/Neu Crew, Crew #2 (43), is the second pair designed for the Dragon vehicles. These guys are also simple to assemble, with one piece bodies and separate heads, and wear hooded parkas. Mix'n'match with 35404 for unlimited possibilities.

35408, Italian Semovente Crew (44), is a pair of Italian tankers clad in leather coats and crash helmets. There's been an interesting resurgence in Italian armor in recent months with new detail sets for the old Tamiya and Italeri kits, and if you need cool crewmen, here they are.

Wolf

Hornet's "other line" has just released one of their best to date. Check it out.

WAW34, Tired German Soldier WW2 (45), is an original pose featuring a beleaguered winter German in camo smock over his overcoat, with a full complement of gear, including pack and Kar98K rifle (cast in white metal). You'll note in the photo that the Panzerfaust isn't touching the ground; cleverly, the figure is sculpted to the weapon, not vice versa. If the tube were touching the ground, this guy would look ridiculous. Prop some groundwork under the end and he's just right. Dig it.

The manufacturers submit all figures reviewed in the Mini-Men section.

The Model Citizen

Last of the Salad Days

So here we are with two groovy kits in need of a diorama. Let's think Italy in the spring of 1944. The Allies have landed at Anzio and Nettuno, and 10th Army will be holding the Gustav Line until May. An infantry unit from the 15th Panzergrenadier gathers around a field kitchen, glad for a hot meal but a bit disappointed to find potato stew and vegetables—again. A tanker from the 26th Panzer, the last Panzer division in Italy, parks his Horch and joins the infantrymen. And then Unterfeldwebel Schmidt appears on the scene with a rabbit and a helmet full of scavenged eggs.

Webster defines 'salad days' as 'days of youthful inexperience'. For the German Army, those days are over.

Go figure

1. The revised Tamiya Field Kitchen includes two cooks in aprons. One of these was modified with a Hornet head and arms from the spares box. The ladle handle was made from strip plastic and the boot heels were better defined by notching the soles of the boots. The cook wears standard field trousers, mouse grey shirt, and Model 1942 Feldmütze. Tamiya did a bang-up job on the suspenders.

1

2

2. This is one of the two diners included in the new Tamiya set. He received a bare Hornet head and scarf fashioned from putty along with resin ankle boots. The Dragon field flashlight was added to his left breast pocket and a punched foil button was replaced during painting. This soldier wears the Model 1943 uniform, identified by the lack of pleats on the four tunic pockets. Tamiya remembered to include the four metal hooks integral to the tunic for supporting the belt. This gefreiter (lance corporal) has achieved six months' service, identified by the single inverted chevron on his left sleeve. Scars were added to his face as well.

3. This figure is comprised of an early VP body showing a camouflage smock worn over the Model 1936 tunic, identified by its pleated pockets and thus a dark green collar. A chewing Hornet head was ground down to receive an Einheitsfeldmütze taken from another head, with hair made from putty. The arms are from Tamiya's German Soldiers at Rest.

3

The Wehrmacht version of the camouflage smock was produced almost exclusively in the Splittermuster pattern and commonly differed from the SS style by button cuffs rather than elastic around the wrists. Some were modified with elastic, however. The camouflage pattern, modified belt buckle, and insignia on the cap and collar identify him as Wehrmacht.

4. This Jaguar officer wears camo smock over officer's breeches. He began life serving in the Herman Goering Division (set #63073) and thus had Luftwaffe insignia. His belt buckle was modified and a new head added from Hornet along with a VP hat and putty hair.

5. This tanker is straight from the box, Jaguar #63076. He wears Schirmmütze with Wehrmacht insignia, mouse grey shirt, and reed green tanker trousers with the large thigh pocket. Plate o'chow included.

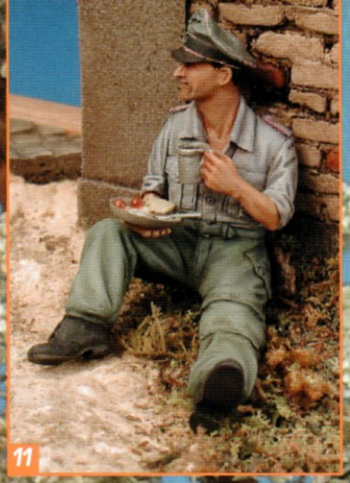
6. This Comrades-in-Arms figure was started a while back and cut from an earlier project, and was thus partially painted. He received a Hornet head and his SS belt buckle was modified to the simpler Wehrmacht design by trimming the eagle wings from the SS motif. He wears Schnürschuhe ankle boots and leggings and hopefully didn't take out that rabbit with his MP40. Let's just say he's good with a rock.

7. The infantry cart was created using a Dragon light trailer from their Kübelwagen with Trailer set. This cart also appears in a couple of their horse-drawn sets. Take a peek at Nick Adams' *German Infantry in WWII*, a reenactor photo book published by VP. The captions are thin but the photos are great, and you'll find the cart on pages 21-22. Dragon nailed it. Using the photos for scale, a new towing handle was added to the trailer from plastic rod. Voila!

Chapter 7: Pat is arrested but not convicted

The Italeri Horch is represented as a repainted vehicle. Tamiya German Grey Spray Lacquer was used on the entire vehicle,

8. Don't you hate it when someone does this to you? The cook tries to ladle while the diner gets distracted by bunny boy. 9. An over the shoulder view of the diner at the edge of the diorama. This shot provides a good view of the table and its accessories.



and the exterior was airbrushed with Tamiya Dark Yellow acrylic. Red brown stripes were airbrushed using a mix of Tamiya Red Brown and Hull Red. The side mirrors were punched from reflective self-adhesive label material. The tanker jacket is from Jaguar set #63825 and the briefcase is from the Italeri Kübelwagen. The unusual 26th Panzer stencil featuring a Prussian grenadier head was found on VP sheet #232.

The field kitchen was sprayed with Tamiya German Grey Spray Lacquer then airbrushed with a lighter shade. The wooden spokes and their metal rims were weathered along with metal wear across both limber and trailer. Condensation was added to the inside of the kettle lid using Tamiya Clear and an old stiff

10. Remember: always park your limber under a tree. 11, 12. The tanker is an out of the box Jaguar item. His dinner includes "bead" grapes. 13. Another view of the infantry cart against the wall. Note the extra gear behind it. 14. An overall shot of the scene. The bare groundwork is a mixture of mixture of Durham's Water Putty, plaster, sand, dirt, water, and brown acrylic paint.

brush. The blanket on the limber was fashioned from tissue soaked in diluted white glue. Water cans, soup cans, and extra stowage were lashed to the limber. A Historex ladle, a scratch-built salt box and spice jar were placed atop the stove.

Making the scene

The wooden base with inset top is from Specialty Wood Products. A section of VP cobblestone was cut large enough to accomodate the Horch. The walls are two sections of Warriors Chateau Wall #35006. A mixture of Durham's Water Putty, plaster, sand, dirt, water, and brown acrylic was used for the dirt road. After the mixture was spread it was pressed with a wad of paper towels to remove the excess moisture and an interesting texture emerged. Pretty nifty, I'd say.

Several varieties of dried plants and moss were ground by hand, then sprinkled onto 5-minute epoxy which had been applied to the base. The grass was continually pressed and more grass added until all the glue had been absorbed, then the excess was blown off. The tree was made by taking a 'real' branch and drilling 100 or so holes using a Dremel tool. The branches are Sea Foam, a dried plant available at craft stores. (Let your feminine side run wild and go get some.) Bits of the Sea Foam were cut off, dipped in white glue, and inserted in the drilled holes. A thin wash of Green Umber and Raw Umber was then applied to the tree. The vine on the wall is a piece of Spanish Moss.

Other goodies

The sideboard table is from the Tamiya Kübelwagen Engine set. It is decorated with a variety of Historex, Custom Dioramics, VP, and Aber items. (Check out Aber's Cutlery set; it's amazing.) The grapes are glass beads. The assorted food stores, crates, boxes, and baskets are all from VP and Custom Dio. Half of a Historex plate was added to the wash bucket. Wire handles were added to the mess tins and soup pots. Straps for the inverted helmets were made from paper, with buckles added from Jaguar helmet set #63807. The pile of gear next to the wall is from Jaguar #63826 and the cook's tunic is also from Jaguar #63825. Don't forget—these stoves required wood, so the axe and small shovel were added to the scene.

Nothin' says lovin' like fried eggs and bunny!

—Joe Porter

15. Bunny boy, come on in! This is an older Comrades-in-Arms figure modified with a Hornet head. 16. The table is set with tons of Historex, Custom Dioramics, VP and Aber items. 17. Here's a photo we took sitting in the tree. Nothing brings on a smile like a dead rabbit. 18. Don't forget the dishes! This wash bucket is tucked behind the kitchen unit. 19. This is the finished Horch and the infantry cart on the south side of the scene.

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